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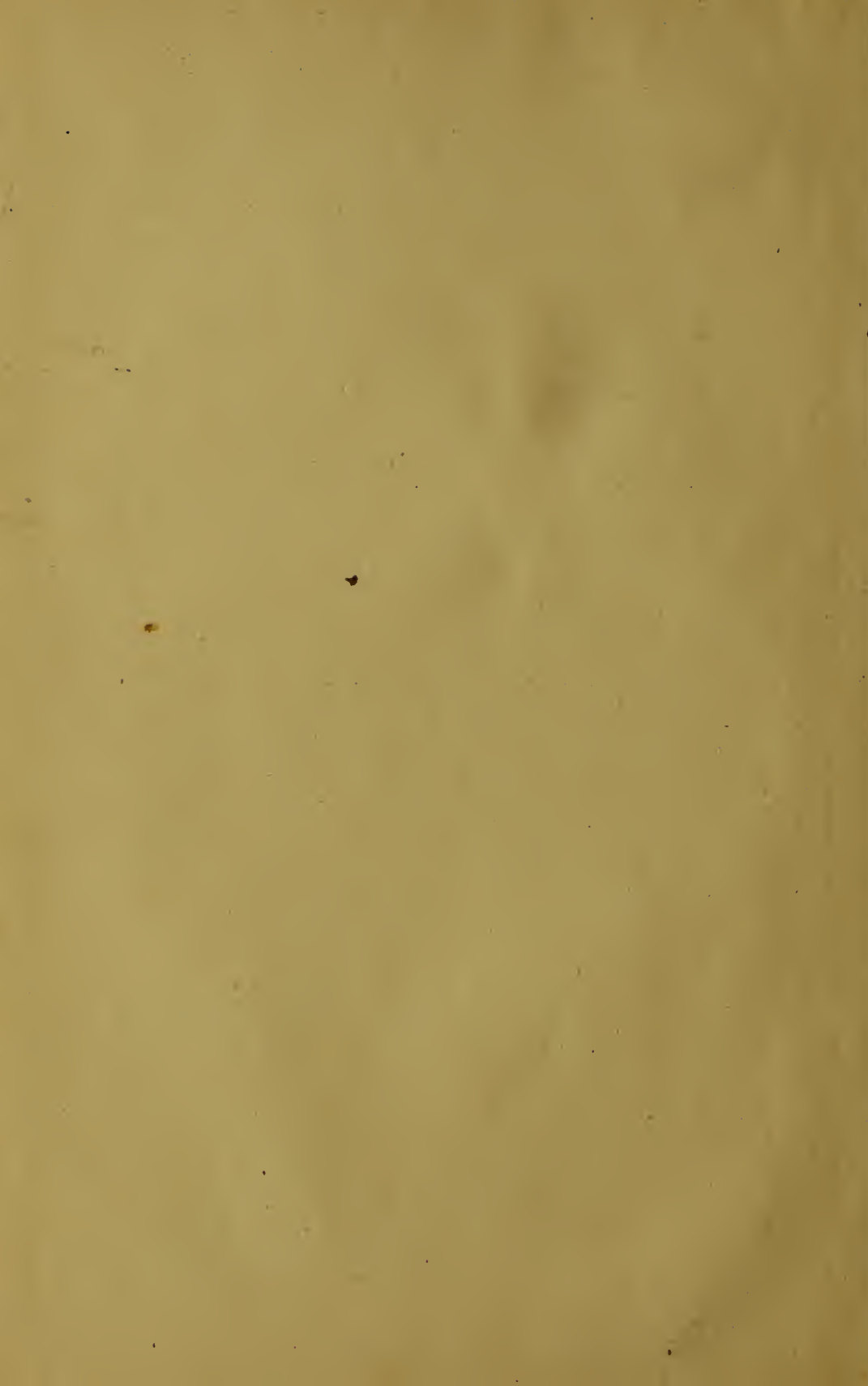
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The CHEMICAL
FOUNDATION
I N C O R P O R A T E D



AIMS AND PURPOSES OF
THE CHEMICAL FOUNDATION)
INCORPORATED
AND THE REASONS FOR
ITS ORGANIZATION

AS TOLD BY

A. MITCHELL PALMER

UNITED STATES ATTORNEY GENERAL AND FORMER
ALIEN PROPERTY CUSTODIAN

IN HIS REPORT TO CONGRESS

AND BY

FRANCIS P. GARVAN

ALIEN PROPERTY CUSTODIAN

IN AN ADDRESS TO THE NATIONAL COTTON
MANUFACTURERS' ASSOCIATION

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HOW GERMANY DOMINATED THE AMERICAN CHEMICAL AND DYESTUFF INDUSTRY

[From the Alien Property Custodian's Report]

THE great field of chemical industry presented, at the outset, perhaps the most difficult of the many problems which the Alien Property Custodian was expected to solve. It was, or had been until importations ceased, saturated through and through with German influence. In regard to no branch of human endeavor was the myth of German invincibility more firmly fixed in the public mind. The country was flooded with German chemists; and those who were not German by origin, were mostly German, directly or indirectly, by training. A vast proportion of the persons engaged in the business bore German names. Connections more or less close between American and German houses were frequent and obvious. There was unquestionably a considerable German interest in such manufacturing as was being carried on. In view of the well-known and uniform policy of the great German government-aided combinations to embark in foreign manufacture only when export from Germany was not feasible, this interest seemed unlikely to be large; but, unless it could be discovered and rooted out, no substantial Americanization of the industry was possible. The German chemical industry, which had so thoroughly penetrated and permeated our own, was gigantic, perhaps the strongest, and certainly the most remunerative of all Teutonic industries. The task of identifying and taking over its property in the United States was thus a direct attack upon a most formidable opponent; while the information on which the work had to be based, had to be derived, to an exceptional extent, from men hostile by birth or tradition.

In order to give a fair understanding of the situation, it is necessary to sketch briefly the history of the German chemical industry. From about the middle of the nineteenth century, the practical application of chemical science began to occupy the attention of a

constantly increasing number of the best scientific and industrial minds of Germany. A combination of natural advantages and national characteristics led to rapid advance. The industrial district in which the necessary materials and other facilities were found or developed was exceptionally compact. Distances were short and transportation easy. Labor was cheap, docile, and stable. On the other hand, the national habit of mind was peculiarly fitted for chemical research work, and particularly for the interminable tasks presented by such research, in the way of exhausting the immensely numerous possible combinations available within a particular field. From the first, scientific attainment, and particularly accomplishment in the field of research, appealed strongly to the public mind. Men of science, and particularly research workers, were more highly regarded than in other countries. This tendency was strongly fostered by the Government, which, by conferring honors and titles, did everything possible to exalt the position of the successful scientist.

As a consequence of these conditions, the universities were at an early date provided with the most elaborate and advanced equipment for research work, and attracted to themselves an extraordinary proportion of the ablest young men of the nation. They accordingly proceeded to turn out a constantly increasing number of highly trained technical men, whose services were available to the rising chemical industry. The number of these men was such that the inevitable competition between them for places made the average salaries exceedingly small. Highly skilled service was, therefore, available to the German chemical manufacturer at an extraordinarily low cost. In this respect he had a marked advantage over the manufacturers of any and every other country in the world.

These advantages were made use of to an extent nowhere else approached, because from a comparatively early date the importance of research work to practical industry was firmly grasped by both the industrial and governmental ruling classes. The alliance of the manufacturer and the university professor became constantly closer and more complete. To meet the needs pointed out by the industrial leaders, armies of plodding, but nevertheless

skillful, chemists completed hundreds of thousands of separate researches. The results of these kept the German chemical manufacturers constantly in the van—always somewhat ahead of their competitors in other countries in the way of new processes and products.

While all that has been said above applies in a measure to every form of chemical activity, the German advantages were naturally less in the manufacture of the heavy chemicals than in the more difficult and complicated processes involved in other forms of the industry. Chemicals which are consumed in great quantities, like sulphuric acid or soda ash, are produced at prices so low that costs of transportation are often a controlling factor. Accordingly, in this branch of the trade the Germans never attained supremacy. The natural tendency was for each country to supply itself with these essential materials, and this natural tendency had not, at least so far as the United States was concerned, been overcome.

In two other great branches of chemical industry, however, the Germans had attained not only the first place, but to all intents and purposes a world monopoly—that is to say, in the practical application of organic chemistry to the manufacture of dyestuffs and medicinals. Although the first coal-tar dye was made in England by an English chemist and the next important step in the development of the industry—the production of Fuchsine, or Magenta—was the work of a Frenchman, the Germans almost immediately advanced beyond the rest of the world in the development of this infinitely complex industry.

This complexity of the manufacture of dyestuffs as a business proposition is almost beyond belief. Tens of thousands of distinct dyes were produced in the German factories, and over 900 of these were actually sold in appreciable quantities, in the American market alone, before the war. Each of these nine hundred and odd products required a separate and distinct process of manufacture, one differing from the next, in many cases, as widely as if the products had been those of unrelated industries. While all these dyestuffs and a host of pharmaceuticals have a common source, in that they are derived originally from coal tar, they descend from this common ancestor by an enormous number of separate family

lines. From the hundreds of distinct substances found in coal tar 10 so-called crudes form the starting points of substantially all the processes which result in dyes. From these more than 300 so-called intermediates are produced by a variety of more or less complex chemical reactions. Most of these reactions require the use of large quantities of acids and other chemicals not produced from coal tar. From the intermediates thus obtained an infinite number of possible dyestuffs can be produced. Many thousand such dyestuffs have been actually produced and marketed.

In carrying out the processes which result in the extraction of the crudes from coal tar, the conversion of crudes into intermediates, and of intermediates into dyes, the quantities of each substance produced depend not upon the will of the manufacturer, but upon the inexorable laws of chemistry. The proportion of the various substances obtained can be varied slightly by skillful manipulation, but only to a small extent. The manufacturer can not avoid producing large quantities of certain materials in order to secure perhaps smaller quantities of others. Again, at the very starting point of the industry, in extracting the crudes from the original coal tar, an analogous situation arises. The tar's content of anthracene, from which the most valuable of all modern dyes are derived, is relatively small; that of naphthalene, for instance, is immensely larger. The tar distiller can not obtain anthracene without producing or wasting much greater quantities of naphthalene, benzol, and other crudes. The same truth holds good in every subsequent step of the immensely complex processes of dye manufacture. At each step by-products are produced in addition to the products sought. The obvious result is that, unless the final product can be sold at a colossal price, uses or markets must be found for most of these innumerable by-products. Many of them, fortunately, are useful in the manufacture of intermediates and dyes. Many have been found to have important medicinal effects and have taken permanent rank as pharmaceuticals. For others no use has been found, and the unavoidable production of these represents pure waste.

The most important feature, however, of this production of by-products is the relation which it bears to the explosive industry.

All the most important explosives of the present day are either coal-tar products or the result of chemical processes requiring the use of coal-tar products. In a large dyestuff factory there is an unavoidable production of considerable quantities of substances which are directly available for conversion into explosives. Moreover, in addition to these by-products which can be used for manufacture of explosives, many of the materials which are not by-products but are directly useful for the production of dyes, can also, by slight alterations in the processes employed, be converted into explosives. For example, in the production of sulphur black, one of the most important black dyes, a slight variation in the final step of the long and complicated process of manufacture will transform the ultimate product into picric acid. A still more striking example is that of paramononitrotoluol. This is an intermediate necessarily made in quantities often beyond the needs of the dye makers. To the end of the last century many thousand tons of this substance had accumulated in the German dye works, which were making frantic efforts to find uses for it in dye making. About 1904 these efforts suddenly ceased. Trinitrotoluol (T.N.T.) had been adopted as a military explosive, and every pound of the accumulation was directly available for easy conversion into this most formidable of high explosives. More important still, however, than this unavoidable production of materials for explosive manufacture, is the fact that the technical skill required for the manufacture of explosives is precisely that possessed by the chemical staff of a successful dye works and is to be found nowhere else.

Three things are apparent in regard to a business conducted under such conditions. One is that, unless limited to the manufacture of a very few carefully selected products, it must be carried out on a large scale with the aid of immense resources in the way of capital and technique. Another is that, if carried out on a large scale, one of its most important features will inevitably be the maintenance of large research laboratories to work out the infinite problems raised by the necessity of disposing of by-products. A third is that the connection with the explosive industry is so close that no Government which gave any serious consideration to the possibilities of war could fail to see the necessity of aiding and

controlling the industry. The truth of each of these propositions was at once demonstrated in the history of the German dyestuff industry. From an early period, the manufacture became concentrated in a few important companies.

These companies, ultimately six in number, developed into enormous establishments producing practically complete lines of dyes and manufacturing most of their own crudes and intermediates, as well as many of their acids and heavy chemicals. Several of these establishments also became large producers of pharmaceuticals in order to procure an outlet for their by-products. Outside of these very large houses, the industry was confined for the most part to small establishments producing only a limited number of carefully selected dyes, so chosen as to minimize the by-product difficulty, and so organized as to enable the owners to save most of the overhead expense by themselves furnishing the required technical skill and superintendence. These, indeed, were mostly little more than assembling plants. In the great establishments, the research laboratories became large and highly efficient institutions. In these laboratories hundreds of chemists were constantly employed. Their facilities were placed at the disposal of research chemists from universities—often men who had no connection with the dye industry whatever. Many of the manufacturers' own chemists were allowed and encouraged to proceed with researches which had no probable immediate commercial utility, but which tended to increase the existing supply of knowledge in those general regions of the world of organic chemistry in which the dyestuff concerns were operating. The result of all this inevitably was the accumulation of an immense mass of scientific data which usually afforded a quick and easy solution to each industrial problem as it arose. The results were sometimes startling. The most striking instance, perhaps, is the case of the Pfleger patent. The invention covered by this patent solved, by the use of sodium amide, of which an overproduction was available, the problem of producing indigo direct from aniline, and thus afforded a process far simpler than and at least as cheap as any theretofore known. As an instance of how closely such matters are followed by the German public, it may be noted that the announcement of the purchase of this patent

by the great Hoechst works, one of the largest German dye manufacturers, advanced the company's stock 150 points on the stock exchange in a single day. The importance of this research branch of the industry is thus hard to overestimate. Finally, the connection with the explosives industry resulted, as is well known, in constant governmental assistance to and control of the dye industry. Much was done by the German Government to insure the prosperity of the dye industry and its immediate convertibility to the production of munitions.

These conditions soon produced in the dye industry certain results similar to those which occurred in all the other important German industries during the great period of expansion at the end of the nineteenth century. The improvements in processes brought about by research laid heavy emphasis on the value of quantity production. Quantity production, carried on by competing houses, led to overproduction. Overproduction led to a determined effort to establish and maintain a large export trade. The natural advantages of the German industry, as compared to the industry in other countries, prevented serious competition in Germany itself. The Government's tariff and other policies enabled home prices to be kept up. It was then evidently to the advantage of any manufacturer to produce far more than he could sell in the home market, even if his export trade had to be carried on at a loss, when by doing so he could use a process so economical that his profits on home trade would be largely increased. Accordingly, German dye-stuffs began to appear in every country at prices which domestic manufacturers could not meet. The inevitable result was that in country after country the domestic manufacture was destroyed or stifled in its cradle. As soon as this had been accomplished, it was no longer necessary for the German exporters to sell at or below cost. Prices were immediately raised and handsome profits realized. The tendency to this result was recognized by the German Government from the first, and every facility was afforded to the growing export trade. It was fully realized by both the civil and military authorities that if a world monopoly in the dyestuff industry could be built up the military strength of Germany would be colossally enhanced, since it alone of all the great powers would

then be in a position to secure immediate supplies of the vast quantities of munitions likely to be needed in a modern war.

The methods under which this dumping policy was conducted, and its extent, may be illustrated by a few specific instances. Most of these occurred in branches of the chemical industry other than the manufacture of dyes, for the simple and sufficient reason that in this country, at least, the dyestuff industry never reached a point where it required much discouragement. When, however, in 1910 the first determined effort was made in this country to establish the manufacture of an important intermediate, when, that is to say, the Benzol Products Co. was organized by a group of men interested in the heavy chemical industry, to manufacture aniline oil on a large scale, the German hand was immediately shown. The price of aniline oil at the time of the establishment of this company averaged 11½ cents. As soon as its manufacture was fairly under way, the German exporters commenced to cut the price. Apparently, no definite prices were made by the Germans, but they adopted the simple policy of offering any customer of the new concern supplies at less than the price he was paying. For example, one of their most important customers refused an advantageous contract at 8½ cents, stating that he had assurance from the Germans that whatever price the Benzol Products Co. made would be met and bettered by them. Accordingly, the new company struggled on, conducting its operations without profit, and only because it was supported by a group of men of exceptional determination and insight was it able to survive until the war gave it an opportunity to establish its business on a firm foundation. Among other examples are the following: In 1903, there were in the United States five manufacturers of salicylic acid. By 1913, three of these had failed. Of the two survivors, one was the Heyden Chemical Co., a mere branch of a German house, which, as such, I have since taken over. During the latter part of the decade referred to, salicylic acid was selling in Germany at from 26¼ to 30½ cents. During the same period, the German houses were selling it in this country, after paying a duty of 5 cents, at 25 cents, or from 6 to 10 cents below what they were getting at home.

A similar situation developed in the manufacture of oxalic acid. In 1901, when there was no American manufacture, it was sold by the Germans at 6 cents. In 1903, when the works of the American Acid & Alkali Co. were started, the price was immediately dropped to 4.7 cents, at about which figure it remained until 1907 when the American factory was shut down for a number of months. During this shutdown period the price was instantly raised to 9 cents. When the factory reopened the price was again dropped until 1908, when the company failed. It was then reorganized and in 1909 secured the imposition of a 2-cent duty on the acid, from which time up to the beginning of the war the price ran at about 7½ cents a pound. The same process was carried on in regard to bicarbonate of potash. In 1900 there was no American manufacture and imports ran about 160,000 pounds. In 1901 American manufacture began. This succeeded so well that in 1906 imports had dropped to 45,000 pounds. At this time the American manufacturer's price was 6½ cents, while the import value was given at 4.9 cents. In the following year the Germans made a determined and successful onslaught. Their import value was lowered to 2.2 cents with a result that, instead of 45,000 pounds, 310,000 pounds were imported. Accordingly, in 1908, the American manufacturer failed. The price was immediately raised to 7½ cents and remained thereabouts thereafter until the war. Many similar instances might be cited, but these sufficiently indicate the method and its results.

This determined onslaught upon the competing industries of other countries, this definite attempt to secure world monopoly naturally created a strong tendency toward combination. As has been stated, by the end of the nineteenth century the real manufacture of dyes on a large scale was concentrated almost exclusively in six great firms. These were the following:

Badische Anilin und Soda Fabrik, Ludwigshafen on the Rhine, hereinafter known as Badische; Farbenfabriken vorm. Friedr. Bayer & Co. in Leverkusen, hereinafter referred to as Bayer; Actien-Gesellschaft für Anilin-Fabrikation in Berlin, hereinafter referred to as Berlin; Farbwerke vorm. Meister Lucius & Brüning

in Hoechst am Main, hereinafter referred to as Hoechst; Leopold Cassella G.m.b.H. in Frankfort, and Kalle & Co. Aktien-Gesellschaft in Biebrich.

Each of these six great companies had attained enormous proportions long before the war. Only two other concerns have carried on manufacture on a scale in any sense comparable. These are the following: Chemische Fabrik Griesheim Elektron of Frankfort A. M., a company which has absorbed a number of smaller manufacturers, and Chemische Fabriken vormals Weiler-ter-Meer, Uerdingen.

It will be noted that all of these establishments with the single exception of Berlin are concentrated in a narrow strip of territory near the Rhine and its tributaries. Their growth may be illustrated by a few figures as to two of the largest. Hoechst was organized in 1863 and started with five workmen. By 1880 it employed 1,860 workmen and 57 chemists, using 1,840 horsepower. It then produced 1,750 different colors. In 1912 it employed 7,680 workmen, 374 foremen, 307 chemists, and 74 engineers and used 30,000 horsepower. The number of colors reached 11,000. The works of the Badische, which was organized in 1865, covered, in 1914, 500 acres, with a water front of a mile and a half on the Rhine. There were 100 acres of buildings, 42 miles of railway within the works, and the power plants comprised 368 steam engines and 472 motors; 11,000 workmen were employed and the company was capitalized at 54,000,000 marks. The establishment of Bayer was on a scale entirely comparable with these two giants of the industry. The works of Cassella and Berlin were slightly smaller, while those of Kalle were the least important of the six. Weiler-ter-Meer was important largely because of its connection with the great Swiss house of Geigy & Co. Griesheim Elektron, prior to the war, had enormous works chiefly devoted to the manufacture of electrolytic chemicals and became an important factor in the dyestuff business only within recent years, when by absorption of the Oehler Works and the Chemikalien Werke Griesheim its color production reached a scale approaching that of the larger houses. Of these eight great concerns each had active agent houses in the United States, which were among the most important factors in the American industry

and accordingly in the work of the Alien Property Custodian in connection therewith.

The tendency toward combination, however, by no means exhausted itself in the creation of these giant enterprises. The same causes which produced the enormous concentrations of capital in other German industries in the form of cartels were also working in the chemical industry. By 1904 two such immense combinations had been formed in the dyestuff industry, each including three of the largest six houses. One of these comprised Bayer, Badische, and Berlin; the other Hoechst, Cassella, and Kalle. Indirectly, through their financial transactions with the great banks, and also directly, each of these cartels was aided and guided by the Imperial Government. By pooling profits, by so arranging capitalization that each company held stock in the other companies of its own cartel, and by other familiar means, the risks incident to the enormous expansion of the business and the immense increases of export trade were minimized. The centripetal tendency, however, did not stop here. In 1916 the two preëxisting cartels were combined with Griesheim Elektron, Weiler-ter-Meer, and various smaller companies in one gigantic cartel, representing a nationalization of the entire German dye and pharmaceutical industry. The combination is extremely close. Profits of the companies are pooled and after being ascertained each year on common principles are divided according to agreed percentages. Each factory maintains an independent administration, but they keep each other informed as to processes and experiences. To stimulate and keep up a spirit of competition between the factories it has been arranged that each product shall be manufactured by two or more factories. There is also an agreement that in order to circumvent tariff obstacles in other countries materials are to be produced outside of Germany by common action and at common expense whenever and wherever desirable.

At the time of the formation of this enormous organization the capitalization of each of the principal component companies was largely increased. Hoechst, Badische, and Bayer each increased their capitalization by 36,000,000 marks, bringing the capital of each up to 90,000,000 marks. The new stock was offered to the

old stockholders at 107, which was a melon of some magnitude, since the last available quotations for the stock of one at least of these companies at the end of 1916 was 490. Berlin increased its capital from 19,800,000 to 33,000,000 marks. Other increases brought the total nominal capital of the group to over 383,000,000 marks. For many years a large part of the enormous profits of these concerns has been put back into the works with the result indicated by the stock quotations. The real capitalization is thus much greater than this nominal figure. In fact, it is estimated that the actual investment in the works comprising the cartel is not less than \$400,000,000. It can not be doubted that this enormous engine of commercial warfare has been created expressly for the expected war after the war, and that it is intended to undertake still more efficiently and on a larger scale the various methods by which German attacks upon all competition were carried on.

In addition to the favorable effects of the foregoing factors, an important aid to the success of German export trade in dyes and pharmaceuticals was the advantage taken of the patent laws of the several countries. Owing to the immensely greater number of research chemists engaged in this work in Germany than in other countries, far more patentable inventions in organic chemistry were made by the Germans than by the chemists of any other nation. In the United States alone they took out patents by the thousand. For example, Bayer alone accumulated in the neighborhood of 1,200 such patents which were placed in the hands of one of its subsidiary companies. The Badische had approximately 500 such patents, while each of the other members of the cartel held patents by the score. As there was substantially no effort (with small exceptions) by any of the German concerns to manufacture in the United States, these patents were obviously obtained and held in order to prevent the formation of an American dye industry and to make impossible importation from other countries. The latter of these two purposes seems to have been the more important in the German mind. They seem to have had no fear that any American industry could be established on a competing basis. They had, however, some respect for the Swiss, French, and English industries, though at the time of the commencement of the

European war Germany was supplying approximately nine-tenths of the world's needs in dyes. With the aid of the patents, especially the product patents, they could and did exclude all importations of competing dyes in the most important classes.

As if the legitimate advantages of the German industry, supplemented by the ruthless if legal tactics of dumping and destructive underselling, were not enough, the methods of the great German houses in carrying on their business in this country were from the first honeycombed with corruption. Bribery of dyers was carried on almost universally and on a large scale. The head dyers of the various mills and other chief customers of the dye manufacturers were subsidized in many direct and indirect ways. These dyers frequently controlled the situation, since if any one of them wished to have his superiors cease using the dye of one manufacturer and buy instead the dye made by some other company, nothing was easier than to control the complicated process of dyeing in such a way that the dyes furnished by the house which was the least liberal to the dyer would produce wretched results. It would then be an easy matter for the dyer to get the manager of his mill to try the dyes offered by the more liberal briber, and with the exercise of a little care, the new dye would be sure to produce satisfactory results. So extensive was this corruption that I came across only one American consumer that had escaped its ill effects. This concern, the United Piece Dye-Works of Lodi, N. J., avoided the difficulty by having all its dyes purchased by the head of the company himself, under contracts providing that no barrel or package should show the name of the manufacturer. The company was thus able to designate the dyes which its dyers were to use solely by its own arbitrary numbers, and the dyers were thus unable to determine whose dyes they were using and to whom they should look for their graft. Against these illegitimate methods practiced by concerns having such resources and compelled by such an imperious necessity to seek and maintain supremacy in foreign fields, honest domestic competition found the utmost difficulty in maintaining itself, and it is therefore not strange that until the outbreak of the war the American industry was of little importance.

Besides the obstacles, legitimate and illegitimate, thus placed by the Germans in the way of the establishment of an American industry, it would appear that there was considerable organized propaganda intended to discourage American attempts. It seems to have been regarded as the duty of a good German chemist in the United States to preach the doctrine of the invincibility of the German chemical industry, the impossible difficulty of the processes involved in the manufacture of many important dyes, and the hopelessness of procuring the necessary technically trained men and skilled labor outside of Germany. How far this was an intentionally organized movement and how far merely a sample of the prevalent German megalomania, it is difficult to say, but the results were analogous to those of the well-known potash propaganda, by which it would seem that the farmers, and to some extent even the scientific men, of the United States were persuaded that far more potash was required for our soil than was actually needed. Whether intentional or not, this propaganda had its effects. At all events prior to the war only a few Americans had the temerity to believe that anything could be done in this country against the German advantages in the way of technical skill, cheap labor, governmental support, and unscrupulous methods.

Indeed, up to August, 1914, the American industry in dyestuffs and medicines consisted of little more than a series of rather small assembling plants. In spite of the fact that enormous supplies of coal tar were available and that several of the crudes could be secured in this country under most advantageous conditions, hardly any of the necessary intermediates were made here, and the manufacture of dyes was almost entirely confined to working upon intermediates imported from Germany.

At one time the industry seemed to have taken a real start. Between 1879 and 1883 nine establishments had commenced the manufacture of dyes and were apparently prospering. In 1883, however, there was a sudden reversal of conditions, and within a year five of the nine shut down. The other four continued on a close margin and were still in existence at the outbreak of the war. Of these by far the largest was the Schoellkopf Aniline & Chemical Works of Buffalo. This company, organized and maintained by

an American family of German origin, which had at its disposal very large resources derived from other business, had continuously made a strenuous and honest effort to establish a real dye industry. From time to time they commenced the manufacture of various intermediates, including at one period aniline oil, which was manufactured on a large scale. In every instance, however, the manufacture was almost immediately brought to an end by German price cutting, and at the time of the war the dyes made by this establishment were the product of intermediates imported from Germany. The company, nevertheless, had established a considerable business and while operating on a very small ratio of profit supplied the greater part of the non-German dyes consumed by the trade. Of the other three concerns Heller & Merz had likewise established a fair business in a few colors also made from German intermediates. The same may be said of the Central Dye Works and the Consolidated Color & Chemical Co. which were operating on a still smaller scale. The latter of these companies, it may be noted, was owned almost exclusively by Mr. Herman A. Metz, the American representative of Hoechst, one of the largest German dye works, and since the outbreak of the war Mr. Metz has likewise become the controlling factor in the Central Dye Works. In addition to these four, a fifth plant was established a few years before the outbreak of the war, at Albany, by the American subsidiary of the great German house of Bayer.

These five concerns comprised the entire American industry, and it will readily be seen that operating as they did on German intermediates they existed purely on sufferance and were absolutely at the mercy of the German producers. They made neither alizarin nor anthracene colors nor synthetic indigo, which being the fastest known dyes are the most valuable product of the industry. The exclusive ability to provide these fast colors, most of which were protected by patents, would have placed the entire trade in the hands of the Germans even if no other factors favorable to them had been present. These dyes were indispensable to the textile manufacturers, and by refusing to supply them except to houses which would buy their other supplies from the German manufacturers—that is, by the familiar process of “full-line forcing”—the

latter could have retained complete control of our market, even if our manufacturers had been otherwise fully able to compete in the manufacture of the simpler colors. The 30 per cent duty payable on almost all of the coal-tar colors apparently afforded no real protection, nor, as will be shown, was it possible for the American industry to secure any relief under the Sherman Act.

The condition of the other branches of the American chemical industry was, as has been stated, not quite so bad. The manufacture of acids and heavy chemicals was well established on a profitable basis, though even in this manufacture the employment of numerous German chemists and processes gave a certain Teutonic color to the industry. In the manufacture of fertilizers there was, in a measure, a balance of power. The Germans had a complete monopoly of potash and its salts owing to their ownership of the only considerable known easily worked potash deposits. This was somewhat offset by our possession of phosphates of which the Germans had no considerable supply. There was a certain amount of German ownership in companies operating in the phosphate field, most of which ownership has been unearthed and taken over. In nitrates, of course, the United States, like the rest of the world, was mostly dependent upon the Chilean supply.

In the manufacture of chemicals in which electrical processes, requiring large and cheap supplies of electric power, played an important part, the situation was such that the Germans had been induced to enter to some extent into the manufacture in this country. They had organized and owned the Niagara Alkali Co. which, utilizing the cheap electric power of Niagara, became the largest domestic manufacturer of caustic potash, the latter produced from German raw materials. This company also supplied the chlorine gas which was the raw material used by the only considerable American manufacturer of liquid chlorine. In the same way the great Frankfurt chemical works known as the Deutsche Gold und Silber Scheide Anstalt, had through its American subsidiaries, the Roessler & Hasslacher Chemical Co., the Niagara Electric Chemical Co., and the Perth Amboy Chemical Works, established the only large American production of cyanides and the largest American production of formaldehyde and wood distillation products.

The importance of these industries will be recognized when it is remembered that cyanides are indispensable to the mining and electrotyping industries, while formaldehyde is the basis of the only new and important chemical industry of American origin, the manufacture of synthetic resin products such as Bakelite, Condensite, and Redmanol.

In medicinals very little real American manufacture existed. A few of the coal-tar pharmaceutical products were produced by two American houses in St. Louis, the Mallinkrodt Chemical Works and the Monsanto Chemical Works. By far the most important factor in this field, however, was the New York house of Merck & Co., which was a branch of the world-famous firm of E. Merck of Darmstadt, and has accordingly as such been taken over. The enormous dispensing and distributing business of such firms as Parke Davis & Co., Lilly & Co., and Powers-Weightman-Rosengarten Co., successful and efficient as it was beyond comparison with similar businesses in any other country, seems to have involved very little real manufacture, and the materials used were largely imported. There seems to have been but little, if any, German interest in this branch of the industry, except among small brokers and dealers.

From all the foregoing it will be seen that the all-important portion of the chemical industry, the branch in which the work of the Alien Property Custodian would necessarily be most arduous and in which its results might be most beneficial, was the dye industry. The vital character of that industry was due not to its financial importance, since the consumption of dyes in the United States at the time of the outbreak of the war did not exceed \$25,000,000 a year in cost to the consuming industries, nor to the fact that these dyes were absolute essentials to industries producing perhaps \$2,500,000,000 of goods annually, but most of all to the fact that the technical skill and equipment provided by a successful dye industry furnished the means, and almost the sole means, to which every nation must look for advances in the application of chemical science to practical undertakings. No other industry offers a livelihood to any such large numbers of highly-trained scientific chemists nor any such incentive to continuous and extended research.

As has been stated, the opening of the year 1914 found nine-tenths of the dyes used in our industries supplied by German houses and the great bulk of these by the largest six German houses. At this time each of these six giants was represented in this country by a subsidiary American corporation. The agent of Bayer was Bayer & Co. (Inc.), a New York corporation, while in the Synthetic Patents Co. (Inc.), another subsidiary, was vested the ownership of the 1,200 American patents taken out by the parent house. This New York company also owned other subsidiaries, including the Hudson River Aniline Works, through which it had established its Albany factory. Berlin was represented by the Berlin Aniline Works, also a New York corporation. Kalle & Co. were operating through a third New York corporation, also called Kalle & Co. In these three cases all of the stock of the American house was admittedly owned outright by the parent organization. All three were accordingly taken over at the outset. The great Badische Co. acted through the Badische Co. of New York, the stock of which appeared on the books to be owned by Messrs. Adolph Kuttroff, Carl Pickhardt and their chief employees. Leopold Cassella & Co. were represented by the Cassella Co., also a New York corporation, the stock of which appeared to be owned by its president, Mr. William J. Matheson, and its vice-president, Mr. Shaw. Hoechst operated through a New York company known as Farbwerke Hoechst, of which the stock stood in the name of its president, Mr. Herman A. Metz. Of these gentlemen Messrs. Kuttroff and Pickhardt were Germans by birth and Americans by naturalization, Messrs. Matheson and Shaw American by birth and tradition and Mr. Metz American by birth. An extensive investigation was instituted by my bureau of investigation under the direction of Mr. Francis P. Garvan, and as the result of a long-continued and strenuous effort it was at last shown that the ostensible ownership of the stock of these three branches was not genuine but that each remained in fact owned by its German progenitor. As will hereinafter appear in the detailed accounts of these proceedings, each of these three companies has also been taken over.

The outbreak of the war cut off the importation of dyes from

Germany. There immediately sprang up a number of American companies, mostly small, organized to embark in the manufacturing business. By strenuous efforts these companies contrived to avert the threatened dye famine which the curtailment of the German supply apparently rendered inevitable. Commencing with those dyes which were easiest to produce, and gradually extending to a limited number of the more essential and well known of the non-patented colors, the production increased until at the time when I took office the requirements of the textile trade were being met and a considerable export business had sprung up. The quality of dyes produced was, except in the matter of standardization, comparable with the German dyes of similar character, but the fast alizarin and anthracene colors were not being produced, nor was synthetic indigo, the consumption of which is larger than that of any other dye. The largest of the existing producers, that is to say, Schoellkopf Aniline & Chemical Works, W. Beckers Aniline Co., and the Standard Aniline Co. of Wappingers Falls, have been combined with the aniline oil works of the Benzol Products Co. and with the appropriate portions of the business of the General Chemical Co., the Semet Solvay Co., and the Barrett Co. into a single large corporation known as the National Aniline & Chemical Co. This combination has since produced considerably more than half of the dyes consumed in America. During the same period the Dupont Co. had begun to construct an enormous plant at Deepwater, Del., established an immense laboratory employing approximately 200 chemists, and had bought the plant of the United Piece Dye Works in which the latter company had succeeded in producing a number of the most valuable dyes applicable to silk. Among other important concerns the Dow Chemical Co., Messrs. Ault & Wiborg, the Sherwin-Williams Co., and the Newport Chemical Works were preparing for the production of colors on a large scale, while many other companies were turning out appreciable quantities. The prices of course rose enormously and the results for a time were correspondingly profitable.

In the meantime the German agencies had been making every effort to retain their organization and their customers. They had on hand, in 1914, a considerable stock of German materials. One

or two of the companies, notably Bayer & Co. (Inc.), sold out at once at a colossal profit. The others, apparently determined to retain their customers and their German connection at whatever cost, peddled out what they had in limited quantities, allowing each customer only a small quantity per month. These concerns made their sales at slight advances in price, hoping by this treatment to retain their customers' good will until the resumption of imports could be brought about. This process was assisted by the two voyages of the submarine *Deutschland*, each of which brought to the representatives of the six great houses a supply of the most essential dyes. Bayer & Co. (Inc.), increased its production somewhat, as did Mr. Metz (the American agent of Hoechst) in his Consolidated Color & Chemical plant, while the Cassella Co. organized a new subsidiary known as the Century Color Co. to commence manufacture under the familiar C. C. C. trade-mark under which it had sold the goods of its parent German house.

At the time when I took office, therefore, the American dye industry was active and profitable and in almost undisturbed possession of the field; but it required only the slightest investigation to show that the new-born industry's hold on life was of the most insecure description. The supply of crudes had been so expanded by the needs of the explosive industry and the consequent increase in the number of by-product coke plants and recovery installations in gas works that our supply of raw materials was unsurpassed. We were, however, producing only a few of the essential intermediates. We had a plentiful lack of even such technical knowledge as was required to produce dyes in the laboratory, to say nothing of the vastly greater amount of similar knowledge required to translate laboratory into commercial production. In the case of all the faster dyes Germany's patents had prevented every attempt at American production, and while the trading with the enemy act authorized issuance of licenses under these patents, the terms were such that no licensee could hope to continue the manufacture in competition with the Germans after the war. In the meantime the representatives of the great German houses were holding their organizations together and keeping their trade as best they could by doling out their remaining stocks and by selling under their

own names American products, sometimes mixed with their own German goods. These representatives were waiting for the end of hostilities and were ready at a moment's notice to reëmbark in the importing business and assist their German parent houses to destroy the new American industry. It was, therefore, one of the most vital tasks before me to ascertain every trace of German ownership in the new industry and particularly in the American representatives of the German trust. Unless the Germans could be deprived of the benefit of these branch houses, their reëntrance into the field would be all too easy.

This proved to be a hard task. Every variety of camouflage had been resorted to by the Germans to conceal their interests. A favorite method in this, as in other industries, was of course that of a fictitious transfer of stock. In a few cases such transfers were carried out after the severance of relations and before the declaration of war. In these cases the character of the transaction was fairly obvious and our course correspondingly simple. In other cases, however—and this was true of two of the three representatives of the great German houses which were ostensibly American owned—the apparent transfer took place at a period before the war was thought of, at least by anyone outside of Germany. In these cases the transfer was the result of an attack made by persons ostensibly interested in the textile business upon the representatives of the German houses under the Sherman law.

Up to about 1910 all the great German houses shipped their goods to their American representatives on a pure consignment basis. The compensation of the American representative was wholly by way of commission. The American company in these cases was a mere selling agency or branch. In 1912 a group of Philadelphia lawyers brought about the prosecution of an officer of Bayer & Co. (Inc.) (or its predecessor, Farben Fabriken of Elberfeld, another New York corporation) for some of the corrupt practices in the way of bribing buyers, which, as has been stated, had become universal among the German houses. In the course of this prosecution the lawyers in question became familiar with the general history of the German industry and at once realized that it might be made the subject of an attack under the Sherman

law, on the theory that each of the German companies was, through its agent, actually doing business in this country and that the two great cartels were conspiracies in restraint of trade. Acting on this theory, suits were commenced for triple damages against most of the American representatives. The institution of these suits, which were subsequently settled, resulted, in at least two cases, in a transfer by the Germans of their stock in the American company to the officers of that company. In the case of Badische Co., the stock of which was already in the names of the American representatives, it was only necessary to change the basis of the business from consignment to sale. This was done in all the cases, so that the German house might appear not to be doing business in this country through its representative, but to be merely selling to an apparently independent American corporation. There was on the surface no apparent reason why these transfers should not have been genuine. Each German house really controlled the situation with reference to its agent because it could instantly ruin its agent's business by withdrawing supplies. Accordingly, for a considerable period these houses escaped more than mere general suspicion, and it was not until the Bureau of Investigation of my department had acquired considerable familiarity with German methods of camouflage that the true situation could be disclosed.

This investigation, of course, ran parallel with the similar investigations of several other departments of the Government and the Bureau of Investigation received valuable aid from the offices of Military Intelligence, Naval Intelligence, and War Trade Intelligence, as well as from the Department of Justice and from the British, French, and other allied authorities. All these bodies worked in close coöperation and their mutual assistance was of inestimable value. Information derived from these sources demonstrated that the chemical industry was a natural center for espionage and that this had been true long before we entered the war—indeed, before the war began. The relation between the German Government and the great German chemical houses was so close that representatives of the industry were naturally almost direct representatives of the Government, and their work in this country gave them unequaled opportunities for examining our industries

from within. Customers of the German import houses were constantly in need of expert advice in regard to the processes in which their goods were used. The advising expert supplied by the German houses naturally saw everything there was to see, and what he learned was seldom concealed from his Government.

After the war began the industry became a center not only of espionage, but of propaganda and of direct governmental activity. The number of striking instances of this development is so great that only a few can be detailed, but these appear sufficiently striking. Among the early examples unearthed by the Bureau of Investigation was that of the by-product coke plant established by the Lehigh Coke Co. The latter was a corporation organized by a syndicate represented by the Deutsche Bank. At the time the war broke out it had been in operation for a number of years and was promising considerable success. It had not, however, gone extensively into the manufacture of coal tar and its derivatives. In 1915, however, it established a considerable plant for these purposes. Every ounce of toluol and benzol which was produced was sold under contracts binding the purchaser not to use or permit the use of the product for the manufacture of explosives or for the benefit of the allies. An examination of the correspondence between Hugo Schmidt, the agent of the Deutsche Bank in this country, and the bank, shows that the entire undertaking represented by this by-product plant was a direct effort by the German Government to prevent the making of these valuable materials for explosive manufacture in the United States, or rather, to prevent their use for the benefit of Germany's enemies. The undertaking was decided on because the Deutsche Bank had ascertained that the Bethlehem Steel Co., which had a contract with the Lehigh Coke Co. for the latter's coke and gas, had practically determined to build such a plant for its own purposes, but that this decision might be changed if forestalled by the erection of a plant by the Lehigh Coke Co. This actually occurred, with the result that large supplies of these invaluable coal-tar products were kept out of the munition industry, while the demand for them from other industries was prevented from having its natural effect in bringing into existence American plants which would have been free to

supply the allies. This condition continued until just before we entered the war, when the Deutsche Bank, doubtless better informed than most as to the probabilities, sold out the Lehigh Coke Co. to a nominee of the H. Koppers Co., which in turn immediately resold to the Bethlehem Steel Co.

A still more striking instance, uncovered by the Bureau of Investigation under the direction of Mr. Garvan, with important aid from the Department of Justice and the Secret Service, was that of the organization known as "The Chemical Exchange Association." The purpose, and for a time the effect, of this enterprise was to corner the supply in the United States of phenol, an essential of the explosive industry, and to prevent its use for the manufacture of high explosives (picric acid and trinitrotoluol, or T.N.T.). This undertaking was apparently initiated by Dr. Albert, the financial adviser of the German Government in this country, in direct collaboration with Von Bernstorff. Dr. Albert carried out the scheme through Dr. Hugo Schweitzer, the chemist and leading spirit of Bayer & Co. (Inc.), the American agent of Bayer, of Leverkusen. The outbreak of the war had instantly stopped the importation of phenol, which was not manufactured to any extent in this country. Mr. Thomas A. Edison, who required large supplies of phenol for the manufacture of his phonograph records, which were made of a synthetic resin of which phenol and formaldehyde were the chief ingredients, immediately set to work to solve the difficulties involved in the manufacture of this substance. By the most strenuous work the problem was solved in his laboratories in a few weeks, and he commenced the manufacture of very considerable quantities, producing a large surplus beyond his own requirements. This surplus would normally have supplied the means for the manufacture of fairly large quantities of the most valuable explosives. To prevent this, Dr. Schweitzer, on June 22, 1915, entered into a contract with the American Oil & Supply Co., which was the selling agency of the Edison works, for practically the entire surplus of phenol available for sale. As security for the faithful performance of this contract, Dr. Schweitzer put up \$100,000 in cash, which was furnished to him by Dr. Albert, and also a \$25,000 surety company bond. A week later Dr. Schweitzer made a contract with the

Heyden Chemical Works (a mere branch of the German house of Chemische Fabrik von Heyden, of Radebeul), of which George Simon, a German subject, was the manager, by which the entire supply of phenol thus purchased was to be taken by the Heyden company and converted into salicylic acid and other harmless medicinal and flavoring products. The arrangement was that the Heyden works were to return to Schweitzer 1 pound of salicylic acid for each pound of phenol and keep the surplus of the converted product. This involved a very large profit for both parties. In the meantime, to avoid doing business under his own name, Schweitzer registered as a trade name the "Chemical Exchange Association," which was described as a copartnership consisting of himself and Richard Kny. Kny was the father-in-law of George Simon of the Heyden Chemical Co., and was the ostensible proprietor of the Kny-Scheerer Co., one of the most important manufacturers in this country of surgical instruments. This company, like the Heyden Chemical Works, was a purely German-owned concern, and both have since been taken over by me.

The net result of all this was a profit to the Chemical Exchange Association of \$816,000, which was apparently equally divided between Schweitzer and Kny. Schweitzer's share of the profits seems to have gone straight to the German Government, but for some unexplained reason Kny appears to have been allowed to keep his. The attempt to prevent the use in explosive manufacture of American phenol was completely successful for a time. The success of the venture was celebrated in the latter part of 1916 by a dinner given by Schweitzer and Kny at the Hotel Astor in honor of Dr. Albert. Among other guests were George Simon, F. A. Borgemeister, Norvin R. Lindheim, and Capt. Wolf von Igel, of the German Embassy—a typical gathering of the most active German propagandists in the country.

Less striking examples of the same sort of thing might be cited by the score. An interesting instance is the case of Dr. Isaac Strauss, organizer and president of the Chromos Chemical Co. Dr. Strauss arrived in this country in September, 1914, apparently with a direct mandate from the German Government for propaganda among the Jews. He proceeded to establish a periodical

known as the "American Jewish Chronicle." Funds to the amount of \$85,000 were supplied for his activities by Dr. Albert, and \$15,000 by Von Bernstorff, and his chemical company, profiting by the enormous war demand and prices, rapidly began to supply further sinews of war. Shortly after the entry of the United States into the war his conduct attracted the attention of the military authorities, and the ensuing investigation led to his internment, whereupon his Chromos Chemical Co. and the "American Jewish Chronicle" were taken over by me.

At the time when I took office it, of course, became the duty of all companies in which any alien enemies held stock to report such ownership. About half of those American chemical enterprises which are now known to be German owned, complied more or less promptly with this requirement. The rest, mostly relying upon pretended transfers by which the stock had ostensibly been put in the hands of American citizens, paid no attention to the act until the activities of the Bureau of Investigation had disclosed the true facts. In some cases, however, the camouflage which concealed the true ownership was of a much subtler and more effective description. In the case of more than one of the companies which promptly reported themselves as entirely German owned, measures had been taken to transfer, to companies which were presumably beyond the reach of the trading with the enemy act, the essential value of the German property and business.

The most conspicuous instance of this method was Bayer & Co. (Inc.). This company at an early date reported all its stock as held by one of the officers, Mr. Seebohm, for three trustees who in turn held for the benefit of the German parent house. It was, on the whole, the most important of all the German branches. Besides representing, as sales agent, one of the three equal giant concerns at the head of the German industry, it was the only German branch which had established any considerable manufacture in this country. Through the purchase of the stock of the Hudson River Aniline Works, it had acquired and greatly expanded a considerable plant near Albany, N. Y., in which it produced a few of the simpler coal-tar colors and considerable quantities of pharmaceuticals, especially the most valuable single product of the German

house—the drug known throughout the world by its trade name of Aspirin. This was a patented coal-tar product on which enormous profits had been made. Practically the entire management of this company was in the hands of German subjects. The leading spirit, Dr. Hugo Schweitzer, was, as has been stated, among the most ardent propagandists and German agents in the country. The Albany plant represented the expenditure of many hundred thousand dollars, and the enterprise was exceedingly flourishing.

To conceal the profits for the purpose of taxation another company was organized, known as the Synthetic Patents Co. (Inc.), all the stock of which was also held by the German concern, to which were conveyed all the American patents of the German house, approximately 1,200 in number, and all the real estate, including the plant. By contracts between Bayer & Co. (Inc.) and Synthetic Patents Co. (Inc.) almost all of the profits of the former were diverted to the latter in the form of rentals and royalties. The investigation also covered a number of less legitimate evasions of the tax laws, and resulted in the recovery of a large sum by the Treasury.

The militant German character of the men in control of this company was so obvious that the ease with which they surrendered its stock was a matter of some surprise. The explanation was not unearthed until the very thorough examination of the company's affairs by the Bureau of Investigation had proceeded to great lengths. It was then ascertained that on the entrance of the United States into the war the men in control of the company had foreseen the danger of sequestration of the property. In casting about for a means of meeting this emergency they hit upon a small company which had recently been organized in Connecticut to manufacture dyes. This was the Williams & Crowell Co., established by two gentlemen who had some knowledge but little capital. They had succeeded in producing two or three valuable sulphur colors, notably one highly suitable for khaki, of which enormous quantities were obviously going to be required. The situation of these gentlemen was such that, although their company had been able to produce profits out of all proportion to its capitalization, they were not unwilling to sell, and accordingly the idea was conceived of

buying this company with a view to the gradual transfer to it of such of the facilities of Bayer & Co. (Inc.) as could be turned over. The plan was laid before the counsel of the company, Mr. Charles J. Hardy, of New York, who was the chief adviser of most of the German houses in this line of business. He appears to have advised that the company itself could not safely make the purchase owing to the danger of its being taken over by the Government, and that for the same reason the stock of the Williams & Crowell Co. should not be bought by the Bayer directors themselves, since they were alien enemies. At his suggestion a new corporation, known as Williams & Crowell Color Co. (Inc.), was organized in New York and the stock taken in the names of American citizens. Williams & Crowell Co. was at this time making profits at the rate of \$50,000 a month and, with the aid of the scientific and business knowledge which could be supplied by the Bayer staff, was in a fair way to immediate and immense success. Indeed, by this simple method, it would have been possible under our very noses to drain the life-blood out of Bayer & Co. and to transfuse it into the new organization, which the Alien Property Custodian apparently could not touch. The purchase of Williams & Crowell Co., however, required a substantial sum in cash, approximately \$100,000, and it was at last possible to prove that the \$100,000 thus paid was money of Bayer & Co. (Inc.), and, therefore, of the German parent house.

This was ascertained only after the Bureau of Investigation had discovered that the treasury of Bayer & Co. (Inc.) was one of the great sources from which German propaganda funds in this country were derived. The parent German house had enormous business connections all over the world. It supplied immense quantities of its products to the east, especially to China. After the outbreak of the war, in 1915, payments for these goods could not be transmitted directly to Germany. As many of the goods had been sold on long credit, very large sums still remained payable to the German house many months after deliveries had ceased. The eastern debtors of the German house were, therefore, directed to make their payments to Mr. Seebohm, of Bayer & Co. (Inc.), of

New York. These funds, amounting to millions, were accordingly received by him and disposed of without being put through the books of Bayer & Co. (Inc.). What became of most of them can not now be ascertained, as all of such records as may have been kept were promptly destroyed. It was possible, however, to demonstrate that part of the payment for the Williams & Crowell stock came from this source. I accordingly insisted that the stock be turned over to Bayer & Co. (Inc.). This was done, and the Williams & Crowell Co. thus formed a part of the assets of Bayer & Co. (Inc.) at the time of the sale of the latter.

Among other interesting facts in regard to Bayer & Co. (Inc.) disclosed by the investigation was the great care exercised by the parent house to restrain the manufacture of dyes by its American subsidiary. The purpose apparently was to limit this manufacture absolutely to colors in which genuine American manufacture was already well established. The German house was very glad to increase in this manner the competition with which the American infant industry had to struggle, but it was determined that American manufacture in other lines should not be commenced, even under its own control. When the cessation of imports after 1914 threatened a dye famine in this country, Bayer & Co. (Inc.) commenced to manufacture a few new colors, or rather, colors which were new to the American industry. No sooner did this reach the ears of the German house than the most peremptory letters were written, absolutely forbidding any further extension of the business in this line. The enormous profits possible from such manufacture had no weight with the Germans when compared with the risk that such manufacture might aid the development of a real American industry.

The stock of Bayer & Co. (Inc.) and of Synthetic Patents Co. was sold by me at public auction, the successful bidder being the Sterling Products Co., a West Virginia corporation dealing in proprietary medicines. This company had previously agreed to dispose of the dye plant and patents, in case it secured the property, to Grasselli Chemical Co., one of the largest makers of heavy chemicals in the country. The price paid was \$5,310,000, plus

back taxes and other obligations of many hundred thousands more. Both purchasing companies appear, on careful investigation, to be thoroughly American.

Two other of the American branches of the six great German dye companies were also taken over at the outset. These were the Berlin Aniline Works and Kalle & Co. These companies were, however, little more than shells, each consisting almost solely of a selling organization without plant or other valuable fixed capital. In the case of the Berlin Aniline Works, there was an attempt to duplicate on a small scale the Williams & Crowell episode, but the resources available were insufficient. Neither of these companies accordingly had anything of great value to sell, and it has therefore been deemed the wiser course to liquidate them. The patents of the German concerns were in each case held in its own name and not transferred to the American branch.

Having taken over these three of the six American representatives of the German giants, my activities in this direction seemed to have been brought to a halt. The other three did not report any German ownership and on a preliminary investigation seemed to be American owned. A very careful examination of all available materials, however, sufficed to raise sufficient doubt in each case to force the company in question to offer to submit its entire books and records to our inspection, and to provide an audit at its own expense. An extremely thorough investigation was thus made possible, and in each case it has resulted in a demonstration that the stock of the branch was actually, in part at least, German owned.

In its relation to the American industry, the most important of these companies was the Cassella Color Co. This concern, the agent of Leopold Cassella & Co. G. m. b. H., was managed by W. J. Matheson and Robert A. Shaw. Both of these gentlemen are Americans by birth and tradition, but both of them had been for many years wholly or chiefly engaged in the business of marketing the products of the Cassella works. The stock stood on the books of the company in their name, and appeared to have been purchased for actual cash at par in 1913. The transcendent importance of this company was due to two facts: First, that it had

apparently been absorbed by the National Aniline & Chemical Co., Inc., which up to the present has been by far the largest American manufacturer of dyes; and, secondly, that the headship of the new all-inclusive German cartel, including all the great companies, is vested in Mr. Carl von Weinberg, who was for many years president of Leopold Cassella & Co., and closely associated with Messrs. Matheson and Shaw. The importance of these facts was emphasized when the former Cassella organization became the selling department of the National Aniline & Chemical Co., and when Mr. Matheson assumed its presidency. A storm of rumor immediately arose, and it was suggested to me from every side that the National company was at least in part German owned. The facts, however, were found to be as follows: Prior to 1913 the majority of the stock of the Cassella Co. of New York was owned by the German house. In that year the antitrust suits above referred to convinced all parties interested that it was unsafe to allow the New York agency to continue even in part to be owned by a member of the German trust. Accordingly, the remaining stock was transferred to Messrs. Matheson and Shaw and paid for in cash. An option was, however, reserved. This was reduced to writing so far as it conferred upon the German house the right to take the stock at the book value on the death of either Matheson or Shaw. It was, however, orally agreed that the stock might be taken on the same basis at any time. In the meantime the contract between the German and American companies was so framed that the profits of the company continued to be divided as before, 57 per cent going to the German house and 43 per cent to the American house. The sale, therefore, made substantially no difference in the relative rights of the parties. Messrs. Matheson and Shaw gained nothing which they did not already have in the way of theoretical control of the American house. The German company retained complete practical control of the American house because it could at any moment, by withdrawing supplies, render the American business worthless. The American patents owned by the German house had been assigned to the American company. In most cases, however, reassignments had been executed, but not recorded, so that the real, though not the ostensible, ownership of the patents

was in fact still vested in the Germans. The correspondence shows an understanding, the legal effect of which seems to be to continue the German ownership to the extent of 57 per cent in the American company, and I have accordingly demanded and taken over 57 per cent of the stock.

When the dye famine began in 1914, Messrs. Matheson and Shaw determined to commence manufacturing, and for that purpose organized the Century Colors Corporation, this name being selected in order to retain the C. C. C. trade-mark of the Cassella goods. This company was organized with a capital of only \$500, and Messrs. Matheson and Shaw took all the stock. The operations of the company were financed to a considerable extent out of the funds of Cassella Co. of New York.

In August, 1917, Messrs. Matheson and Shaw, desiring to dissociate themselves from the Cassella name, caused the Century Colors Corporation to purchase from the Cassella Co. all its tangible assets. On the same date the capital stock was increased from \$500 to \$200,000, Messrs. Matheson and Shaw paying in the difference. The tangible assets represented everything owned by the Cassella corporation except its patents, good will, and the contract with Leopold Cassella, G. m. b. H., for the sale and purchase of the German products. On September 11, 1917, Messrs. Matheson and Shaw sold to the National Aniline & Chemical Co., Inc., all of the stock of the Century Colors Corporation. Under this contract, Messrs. Matheson and Shaw agreed to subscribe for \$200,000 worth of the National company's stock and to place their own services at the disposal of the National, in return for which the National company agreed to give them 4,000 full paid shares of preferred stock and 40,000 shares of common stock, having no par value. It was also agreed that the existence of the Century Colors Corporation should be continued for at least one year. At this time, in explaining the failure to convey the Cassella company's intangible assets, Messrs. Matheson and Shaw stated in a letter to the National company that they did not feel at liberty to dispose of the Cassella company's intangible assets without first consulting the German house.

After this sale to the National, the personnel taken over from

the Cassella and Century Colors companies rapidly became increasingly important in the National organization. When Mr. Matheson assumed the presidency, the Century staff became to all intents and purposes the National sales department. All this undoubtedly gave to the new organization a color which afforded considerable justification to the rumors of German ownership. Accordingly, the correspondence was examined with the utmost care. This correspondence, including, as it does, many of the letters which passed between Messrs. Shaw and Matheson themselves at a time when neither could have imagined that their transactions would be under investigation, shows that at the time of the sale to the National, both desired not to sacrifice their German connection, and that neither believed with any great confidence in the success of the American manufacturing industry, though they may have believed that the formation of the National company offered an opportunity for success in America not theretofore available.

In October, 1917, the Cassella Color Co., in spite of the feeling previously expressed by Messrs. Matheson and Shaw that they could not properly transfer any of its intangible assets without consulting the German house, transferred to the National company a number of important patents. This was done without regard to the existence of the unrecorded reassignments to the German house. This transfer appeared to be invalid, and these patents, together with all other patents known to be the property of the German house, have accordingly been demanded and are vested in the Alien Property Custodian.

At the present time there appears to be no German ownership in the stock of the National Aniline & Chemical Co., Inc.; the great majority of the stock is held by the following: Schoellkopf Aniline & Chemical Works (or its stockholders, chiefly members of the Schoellkopf family); General Chemical Co.; Barrett & Co.; Semet-Solvay Co.; W. Beckers Aniline Works; W. J. Matheson; Eugene Meyer, Jr.

A complete working majority of the stock has been placed in the voting trust of which the trustees are as follows: Wm. H. Nichols, president of the General Chemical Co.; H. S. Handy, of

the Semet-Solvay Co.; Wm. H. Childs, president of the Barrett Co.; W. J. Matheson; Eugene Meyer, Jr.

A contract has been entered into which will result in the gradual elimination by purchase of the Beckers interest, which has been thought desirable because of Dr. Beckers' German origin. The Cassella Color Co., of New York, has been partially liquidated and its stock has been reduced from \$200,000 to \$500. The taking over of 57 per cent of this stock will at least permit the elimination of the Cassella name.

The American branch of the great Hoechst Co. had for many years been conducted by Mr. Herman A. Metz. Prior to 1912, the New York corporation was known as H. A. Metz (Inc.), and a majority of its stock was always owned by the parent house. In that year the German company took over all but 10 shares of the minority stock which had previously stood in the name of Mr. Metz, leaving him the record owner of these 10, the only shares not held by them. At the same time the name of the New York Corporation was changed to Farbwerke-Hoechst, so that the value of the good will might be firmly fixed in the German name. At about this time the antitrust proceedings above referred to were commenced against these companies also. Mr. Metz settled for \$40,000 the suit commenced against his company, and proceeded to make strong representations to the German house to the effect that the stock ought to be owned by him so that it could be asserted that the German house was no longer doing business in America. A prolonged negotiation ensued, the Germans being very reluctant to make any change. At last, in the summer of 1913, it was arranged that the 1,990 shares held by the German concern should be transferred on the books to Mr. Metz; that in return he should execute a demand promissory note without interest for the sum of \$597,000; that the note should be delivered to the German company and the stock, together with a suitable transfer properly executed, should be deposited to the sole order of the German concern in a Montreal bank, as security for the note.

At this time and for many years previous the American company had been operating under a contract by which the German house appointed it its sole American sales agent and agreed to

furnish it with goods, in return for which the profits were to be divided according to an arbitrary scale, irrespective of stock ownership. Under this arrangement the Germans were to have one-half the profits of the color business and 75 per cent of the profits of the pharmaceutical business, which, owing to the development of salvarsan and novocaine, had become of great importance. In return, and as a check on possible overcharges by the German house, Mr. Metz was to receive a percentage of their profits on the sales to the American company. An irrevocable power of attorney was given to Mr. Metz to vote the stock owned by the German company in the New York house and an option was reserved to the German company to purchase the stock in the event of Mr. Metz's death or retirement.

This contract was continued unaltered after the stock transaction of 1913, and under it the profits were divided as long as it was possible to remit moneys to Germany. There was also an oral understanding between the parties that the note should not be payable except out of the stocks or its proceeds, and that it could not be demanded as long as Mr. Metz should remain president of the company. It will thus be seen that the whole stock dealing produced no change whatever in the rights of the parties. After it, as before, the share in the profits of each party remained the same; power to secure and pass title to the certificates remained as before in the hands of the German company alone; the voting power remained as before in Mr. Metz's hands; in fact none of the incident of ownership was in any way affected by the transaction.

At the outset Mr. Metz filed reports stating the existence of the note and the fact that certain stock was deposited as security for the same, but it was not until the ascertainment of the entire history of the transaction that the proof could be obtained that the transfer was not and was not intended to be of any effect. At last, however, the investigation thoroughly demonstrated this, and the stock has accordingly been taken over by me.

During the course of the year 1916, Mr. Metz, finding that he could no longer secure from Germany supplies of pharmaceuticals, especially salvarsan and novocaine, which formed the most profit-

able part of his business, determined to enter upon their manufacture in this country. Correspondence with the German house proving unsatisfactory, he sent his brother, Dr. G. P. Metz, to Germany to secure the necessary permission. This permission was refused, but the latter came home with a sufficient knowledge to permit the commencement of the work. A new company was organized under the name of H. A. Metz Laboratories (Inc.), a New York corporation, and this company commenced the manufacture of these two invaluable medicinals, which has been continued since our entrance into the war under license from the Federal Trade Commission.

The agency of the largest of all the German houses, the great Badische Co. of Ludwigshaven, presents perhaps the most striking example of the German methods of camouflage as applied to stock ownership. For many years this company has been represented in this country by Mr. Adolf Kuttroff, who was born in Germany, but came to this country at a very early age, and was naturalized in 1867. In a succession of partnerships and incorporations with various members of the Pickhardt family this gentleman has always conducted the business of the Badische in the United States. In 1906, shortly after the formation of the first German dyestuff cartels, when the parent houses of Bayer and Badische became members of the same body, an attempt was made to combine their agencies in this country. A company called the Continental Color & Chemical Co. was organized in New York and took over the Badische business of Kuttroff & Pickhardt, and the Bayer business of the Bayer Co.'s New York subsidiary, then known as Farbenfabriken of Elberfeld. At the end of the year, dissensions led to the dissolution of this company and the Badische agency was then taken over by the Badische Co. of New York, a New York corporation. The stock of this company appeared to be entirely owned by Messrs. Kuttroff & Pickhardt, and on its books continued so down to its dissolution in 1917, except for small quantities of stock issued from time to time to the principal subsidiary officers of the company. All this stock, however, was held subject to an option permitting the German company to acquire it at par, and there was an oral understanding that no dividends exceeding

6 per cent should be paid. The balance of the profits, which were considerable, was distributed according to an arbitrary scale arranged by Mr. Kuttroff from time to time among the chief officers of the company. The company was dissolved in 1917 and a new corporation organized under the name of Kuttroff & Pickhardt (Inc.), which ostensibly took over only the physical stock in trade of the old company and its officers. The stock of this new company is held substantially in the same proportions by the same persons who held the stock of the Badische Co. of New York.

It will thus be seen that the ostensible stock ownership of this agency remained unchanged from 1909 until after our entrance into the war. It had thus been so arranged that no change was necessary in order to avoid the Sherman-law suits, nor in order to escape the attentions of the Alien Property Custodian on casual examination of the books. Indeed, the true facts were only ascertained after a most elaborate analysis of the books by highly skilled accountants, and of the available correspondence and intercepted cables by trained lawyers. Suspicion of the company was generally prevalent, but the first definite evidence was derived from correspondence obtained by the British authorities, which demonstrated that the New York company had been in the habit of asking for the decision of the German house on even such intimate questions of domestic policy as the increase or decrease of minor salaries of the staff. This correspondence indicated a degree of control far beyond that which was attributable to the mere power to stop supplies. It was then ascertained by the accountants that the original \$25,000 paid into the Treasury of the company for the first issue of \$25,000 of stock came out of the moneys of the German house in the Continental Co. at the time of the liquidation of the latter concern. An intricate analysis also showed that at a time when the original capital stock of the New York Badische Co. was decreased the sums paid out went not to the ostensible stockholders but to the German house. Finally it appeared that on three separate classes of transactions very large sums out of the earnings of the New York house were transmitted to the German house when there was no possible obligation

to do so, and that this was done by the personal direction of Mr. Kuttroff without consultation with the directors or stockholders. For example: During the years 1915 and 1916 the sum of \$701,-944.34 was credited on the books of the German house and subsequently remitted under the head of indanthrene royalties. The company had been selling for the German house for years its high-grade indanthrene dyes which it received from the German house at fixed prices which did not include the sums described as royalties. As the goods were manufactured in Germany and nothing was done to them here, no royalty, properly speaking, could possibly be due. If any was payable, it must have been merely as an enhancement of the price. There was no understanding between the companies to any such effect.

Obviously, then, if the companies had been really independent, the president of the New York concern would never have dared to deprive his own stockholders of any such sums without legal obligation and without even consulting them beforehand. In like manner, in 1914, the sum of \$477,100 was credited and remitted ostensibly as a return of advances made years before by the German house for expenses of the New York concern. Here, again, there was no previous understanding or present authorization requiring or permitting anything of the kind. At the time the alleged advances were made by the German house the New York company was operating merely as an agency on commission. There was no conceivable reason why a part of the agency's expenses should not have been met by the principal in the usual way. Yet again, without consulting anyone, Mr. Kuttroff caused these large sums to be taken out of the hands of the ostensible stockholders and put in those of the real owners of the company. Finally, in the case of the goods received by the submarine *Deutschland*, the same process was carried on. These goods when originally received were entered on the books like all other shipments of the German house on a sales basis; that is to say, they were treated as the property of the New York house, and the German house was credited with the price, approximately \$800,000. Settlements with the custom-house appear to have been made on this basis. Some months afterward a profit of about \$400,000 had been

realized. The book entries were then reversed so as to bring the transaction back to a consignment basis in which the German house would be entitled to all these profits except a commission. This change was made by Mr. Kuttroff without the authority of the stockholders or directors, and accordingly a sum of nearly \$400,000 was made available for a remittance to Germany, and was so remitted. These and kindred transactions have so clearly demonstrated that the German company was the real owner of the stock of the American Badische company that a demand which is to be issued forthwith will be immediately complied with. This demand, owing to the fact that the company has been dissolved, will result in the taking over of only the assets of the company, which, however, are considerable, but these will include certain profits realized, since the dissolution, by the new corporation of Kuttroff & Pickhardt (Inc.).

From the foregoing it will be seen that the American agent companies bearing the names of each of the six great German dye companies have been taken over. This, it is to be hoped, may interpose some difficulties in the way of any attempt on the part of the latter to reestablish themselves in this country.

The situation presented by the agencies of the German dye companies of the second rank has been less satisfactory. The great Griesheim Elektron Co. was represented in this country by two concerns, Geisenheimer & Co., a partnership between American citizens now dissolved, and A. Klipstein, a corporation of which all the stock was held by two unrelated Klipstein families, all citizens. No trace of real German ownership could be discovered, after the most prolonged and laborious investigation both here and abroad, by all the departments interested, in either of these companies, though the business of both had been largely derived from German sources throughout their existence. The house of Weiler Termeer was represented in this country by the Geigy-Ter-Meer Co., now the Geigy Co., in which, prior to the beginning of 1917, the German house owned 20 per cent of the stock. This stock was, however, transferred before our entrance into the war to the Swiss house of J. R. Geigy & Co., a firm in good standing with the allied Governments. It has been impossible to ascer-

tain whether this transfer was in any respect for the benefit of the German house, but in any case the great majority of the stock of this company is in Swiss and not in German hands.

Among the chemical companies in which German interests existed outside of the dyestuff business, by far the most important was the Roessler & Hasslacher Chemical Co. This was a branch of the great Frankfort gold and silver refining company known as the Deutsche Gold und Silber Scheide-Anstalt vormals Roessler, and was organized by Messrs. Roessler and Hasslacher, two old Scheide-Anstalt employees, who came to this country to introduce the goods of the parent house. From the first, the German concern and its officers and employees owned about three-quarters of the stock of the American house. The latter prospered enormously and built up a very large business. Besides selling the products of the Scheide-Anstalt, consisting chiefly of cyanide of sodium and cyanide of potassium, it built up a very large jobbing business. In 1895 the Niagara Electro Chemical Co. was founded to manufacture metallic sodium by means of the electric power available in Niagara Falls. The sodium thus produced was used for the manufacture of cyanide of sodium in this country, a business which immediately became exceedingly profitable. The stock of this company was divided so that one-third of it went to the Scheide-Anstalt, one-third to Roessler & Hasslacher, and one-third to English interests. This company had a capitalization of \$100,000, made fabulous profits, and for the five years before our entrance into the war averaged over 900 per cent in dividends annually.

Meanwhile the Perth Amboy Chemical Works had been established with a capital of \$400,000 to manufacture formaldehyde and wood distillation products; 1,960 of the 4,000 shares of this company were held by the Roessler & Hasslacher Co., a similar amount by another outside German corporation, the Holzverkohlungs Industrie A. G., and a casting vote was left in the remaining 80 shares with Roessler & Hasslacher. In the summer of 1916 the officers of the Roessler & Hasslacher Chemical Co. began to ask the authorities of their parent house to transfer to them more of the stock. The first request was made in a letter which contained

a distinct intimation that this change in holdings need not be permanent. In subsequent letters they insisted, as reasons for the proposed sale, that the political situation was very acute; that German-owned property in this country might be sequestered, and that if any of their goods were to be imported and were to get by the British they would have to be able to say that the company which did the importing was not German owned. This proposition met no response. On the contrary, the Scheide-Anstalt officers replied that they did not understand what Messrs. Roessler & Hasslacher wanted; that what they proposed must either be a real or a pretended sale; that if a pretended sale was what was suggested the idea was dangerous; and that if a real sale was meant a price would have to be charged which Messrs. Roessler & Hasslacher would, under no circumstances, be willing to pay. They then suggested that a confidential man should be sent over to explain just what was wanted. The letters of Mr. Hasslacher had, however, left no doubt on this score, as they had asked in the simplest possible language for a sale of the stock and had requested the Scheide-Anstalt to name their price.

In general the letters outlined the proposition as clearly as it could be stated, and the Scheide-Anstalt people can not have avoided fully understanding just what was wanted, except on the supposition that the letters didn't mean what they said and that the real proposition was one which it was dangerous to put on paper. Their refusal, at all events, even to name a price, was unequivocal. They said in substance, "rather than part with 'the best cow in the barn,' we ought to take every risk of the political situation and trust to fighting our rights in free America." Notwithstanding this discouraging statement, Messrs. Roessler & Hasslacher did send over a confidential man as was suggested. This emissary, Mr. Oscar R. Seitz, a New York lawyer of Swiss descent with some German connections, reached Frankfort on February 1. He brought no letters of introduction, power of attorney or means of identification. The Scheide-Anstalt people did not know for certain that a confidential man was coming, or that if so, it was to be Mr. Seitz; yet he says that after a few brief interviews in which he offered no argument, other than those which had al-

ready been stated in the letters from Mr. Hasslacher to his German intimates, the Scheide-Anstalt people agreed to sell to the American representatives the following stock: 3,800 shares of Roessler & Hasslacher, at 200; 140 shares Niagara Chemical Electric Co., at 400; 80 shares Perth Amboy Chemical Works, at 200. No counter-offer was apparently made, and there seems to be no hesitation about the price, nor was there any suggestion of the purchase of the balance of the German holdings. A wireless was then, on February 6, 1917, sent to the New York office, and, upon this wireless, the stocks were transferred on the books of the companies and the necessary \$860,000 was remitted to the German house. The stocks thus sold carried with them control of all three of the companies. The price paid represented a book value approximately twice as great, and the average annual dividends for the preceding five years on the three blocks of stock combined figured out at over 39 per cent on the purchase price. As regards the Niagara stock, the book value was nearly four times the purchase price, while the average dividends for five years figure out an annual return of 225 per cent on the purchase price.

These facts, and a host of additional circumstances likewise pointing inevitably to the conclusion that this sale was not genuine, were brought out in a prolonged proceeding conducted by my representative before the attorney general of the State of New York, who had the power to subpoena witnesses. In the meantime the 47 per cent of the stock of the Roessler & Hasslacher Chemical Co., which was admittedly still German owned, had already been taken over. I thereupon determined, by virtue of the authority conferred upon me by the trading-with-the-enemy act and by the presidential proclamations thereunder, that the stock ostensibly transferred in February, 1917, was in fact still German owned; and accordingly I thereupon issued demands for it. This proceeding will result in the Americanization of the most important German-owned chemical companies outside of the dye industry.

Next to Roessler & Hasslacher in importance among companies of the same class is the Heyden Chemical Works; this was the subsidiary of the Chemische Fabrik von Heyden, of Radebeul, Germany, and manufactures salicylic acid and its derivatives,

formaldehyde, saccharin, the medicines usually known by their proprietary names aspirin and urotropin, benzoate of soda, and many other valuable products. Of late years it has become enormously successful. Prior to the year 1917 all the stock was owned by the German company, and in addition the American concern was tied by a contract with its parent house under which all the earnings of the American concern over 8 per cent went to the German house in payment for processes and information. When my investigation commenced, all of the stock except three shares stood in the name of T. Ellett Hodgskin, a New York lawyer, who had for some time represented the firm. After considerable examination it was ascertained that this stock, which had been transferred just before our entrance into the war, had been paid at par with a sum of \$149,000, borrowed by Mr. Hodgskin for the purpose from Richard Kny, father-in-law of George Simon, a German subject and the manager of the company, under an agreement contained in a letter from Mr. Hodgskin to the effect that he would thereafter retransfer it at cost. Richard Kny, it will be remembered, was the partner of Schweitzer in the Chemical Exchange Association, and he was also the ostensible owner of the Kny-Scheerer Chemical Co., which also turned out to be a purely German-owned concern and has been taken over as such. Thorough investigation resulted in the practical admission that this transfer was mere camouflage, and accordingly the stock has been demanded and taken over. Mr. Hodgskin is now under indictment for his participation in similar proceedings in respect to another company. This stock and other rights of the German house in the American company have been sold at public auction to the Monsanto Chemical Works for \$605,000 plus taxes and profits of 1917 and 1918, but the sale has not yet been confirmed by the sales committee.

An almost exactly similar situation was disclosed by the investigation of Bauer Chemical Co., a much smaller concern manufacturing pharmaceuticals, especially the widely advertised "Sanatogen" and "Formamint." In this company also the stock, which was really the property of the Berlin house of Bauer & Co., appeared by a fictitious transaction to have passed into the hands of

Mr. Hodgskin. The fictitious character of the transaction in this company also has been admitted, and the stock has been taken over.

Another method of concealment was disclosed in the investigation of American Pyrophor Co. (Inc.). This company was organized in December, 1917, by Charles Ganz, former agent of the Treibacher Chemische Werke, of Treibacher, Austria, and to it Ganz transferred, without authority, the entire business of the Treibacher company in this country, a business consisting of the manufacture of pyrophor, an alloy of iron and cerium, which, when struck or scratched, produces fire and is used for cigar lighters, etc. Here, after investigation, the unauthorized character of the transfer was so clearly shown that it was admitted, and upon demand the stock of the company was turned over. In this, as in many other like cases, it was impossible to determine whether the ostensible new owner of the business meant to keep it for the alien enemies or to steal it for himself.

In pharmaceuticals, the most important concern in the world was that of E. Merck, of Darmstadt. This was represented in this country by Merck & Co., a New York corporation which had an enormous and very profitable business in all kinds of medicinal preparations. The stock of this company appeared on the books to be owned exclusively by George Merck, a member of the family which owns the house of E. Merck, of Darmstadt. Investigation, however, showed that the profits of this company had always been remitted to the German house in a manner utterly inconsistent with the apparent stock ownership, and it now stands admitted that the stock was paid for with money of the German house and belongs to the latter. Mr. George Merck insists that he is the real owner of one-fifth of this stock by virtue of the fact that he owns 20 per cent interest in E. Merck, of Darmstadt. I am of the opinion, however, that indirect ownership of this kind can not be recognized under the trading with the enemy act, and I have therefore determined that the whole of this stock is enemy owned and it has accordingly been taken over.

In addition to the above, I have taken over all or part of the stock of the following less important companies engaged in various

lines of chemical activity: Charles Helmuth & Co. (Inc.); International Ultramarine Works; G. Siegele & Co.; Williamsburgh Chemical Co.; New Brunswick Chemical Co.; Fahlberg Saccharine Co.; Philipp Bauer & Co. (Inc.); Amid-Duron Co.; Haarmann-de Laire-Schaefer Co.; Jarecki Chemical Works; Riedel & Co. (Inc.); Rohm & Haas; Somerset Chemical Co.; Tropon Works; Gerstendorfer Bros.; German Kali Works; F. Ad Richter Co. The liquidation of the German interests in these companies is proceeding in due course.

The amendment of November 4 to the trading with the enemy act presented for the first time an opportunity for what appears to me to be the most important piece of constructive work which has been possible in my department. Until the enactment of this amendment it had not been possible to take over German patents. These patents, as had been already indicated, formed a colossal obstacle to the development of the American dyestuff industry. Evidently they had not been taken out with any intention of manufacturing in this country or from any fear of American manufacture, which the Germans apparently thought could not be successfully carried on under conditions prevailing in this country in regard to costs and to the supply of technicians and skilled labor. Upon consideration, however, it seemed that these patents offered a possible solution for the problem, hitherto unsolvable, of protecting the new American dye industry against German competition after the war. If they were not taken out in order to prevent American competition they must have been obtained as a weapon against competing imports. If they were sufficient to stop importation of competing Swiss, French, and English dyes, they would presumably serve, in American hands, to stop the importation of German dyes. This was particularly probable in the case of the product patents, since most of the coal-tar dyestuffs are definite chemical combinations to which a product patent is entirely applicable.

The idea was accordingly conceived that if the German chemical patents could be placed in the hands of any American institution strong enough to protect them, a real obstacle might be opposed to German importation after the war, and at the same time the Ameri-

can industry might be freed from the prohibition enforced by the patents against the manufacture of the most valuable dyestuffs. Accordingly, these considerations were laid before various associations of chemical manufacturers, notably the Dye Institute and the American Manufacturing Chemists Association. The suggestion was met with an instantaneous and enthusiastic approval, and as a result a corporation has been organized to be known as the Chemical Foundation (Inc.), in which practically every important American manufacturer will be a stockholder, the purpose of which is to acquire by purchase these German patents and to hold them as a trustee for American industry, "for the Americanization of such institutions as may be affected thereby, for the exclusion or elimination of alien interests hostile or detrimental to the said industries and for the advancement of chemical and allied science and industry in the United States." The voting stock is to be placed in a voting trust of which the trustees are to be the five gentlemen who for months have been acting as the sales committee which passes upon sales made by my department, that is to say, George L. Ingraham (former presiding justice of the Appellate Division, First Department, New York Supreme Court); Otto T. Bannard (president, New York Trust Co.); Cleveland H. Dodge; B. Howell Griswold, Jr. (senior partner of Brown Bros., bankers, Philadelphia); Ralph Stone (president, Detroit Trust Co.), and the charter is so framed that under the patents non-exclusive licenses only can be granted on equal terms to all proper applicants, and must be granted to the United States free of cost. The company is capitalized at \$500,000, of which \$400,000 is to be 6 per cent cumulative preferred stock and \$100,000 common stock, also limited to 6 per cent dividends. The first president of the Chemical Foundation (Inc.) will be Francis P. Garvan, of the New York bar, to whose clear vision and indefatigable industry I am chiefly indebted in the working out of this plan. By Executive order obtained under the provisions of the act, I have sold to this company for the sum of \$250,000 approximately 4,500 patents, the remaining \$250,000 has been provided for working capital so that the company may be able to commence immediately and prosecute with the utmost vigor infringement proceedings when-

ever the first German attempt shall hereafter be made to import into this country. The charter of the corporation provides that surplus income is to be used for the retirement of the preferred stock and thereafter for the advancement of chemical and allied science and industry. The price thus paid was necessarily determined somewhat arbitrarily; the great majority of the patents were presumably valueless. The value of the remainder was entirely problematical and impossible to estimate. Substantially the entire industry having combined for the purpose of this purchase, it would have been impossible on public sale to find as a bidder any legitimate manufacturer. No other bidder could, therefore, have been found on public sale except some speculative individual who might have bought them for purposes practically amounting to commercial blackmail. The combination was not objectionable to public policy since it was so organized that any genuine American, whether a stockholder of the company or not, could secure the benefits of the patents on fair and equal terms.

It is submitted that the organization of this institution constitutes the most important step that has been taken for the protection of the new industry. Tariff protection has proved utterly unavailing in the past. The German industry as hitherto organized, and still more as now organized, has had so much to gain by extending its foreign trade and by destroying the industry in other countries that it would undoubtedly give away its goods in this country for nothing in order to recover the American market. The Chemical Foundation, however, should prove a power sufficient to discourage in a most effective manner any German attempts in this direction. If, as their newspapers boast, the Germans have during the war worked out entirely new dyes superior to their past productions, the protection afforded by it will be invaluable. It has been the uniform experience of the industry that the introduction of new classes of dyestuffs follows only several years after the patenting of the original inventions on which their manufacture depends. Accordingly, the later dyes of to-day depend largely upon the patents of three or four years ago. The patents transferred to the Chemical Foundation include many German patents of 1917 and even of 1918, and also many applications still pend-

ing. These patents undoubtedly include the results of the research upon which must be based the manufacture of any new dyes which the Germans are now able to produce and market. Accordingly, at the very least, the institution will be able to protect the American industry for a considerable period, and this should be all it needs. It appears to be the universal view of the more competent manufacturers in this country that, given five years of freedom from German competition, the American industry can hold its own. Probably only a measure such as the embargo which appears to have been imposed by the British and French against all foreign dye importations can furnish this protection to the degree necessary to insure the safety of the American industry; but short of such an embargo, the Chemical Foundation would seem to furnish all the aid that possibly can be given.

At the same time the new institution promises an incalculable benefit not only to the dye and chemical industries but to the whole American manufacturing world. The opportunities which it can offer and the rewards which it can hold out to competent research scientists should far exceed those of any institution unconnected with industry, and it may well, therefore, form the nucleus of the greatest research organization in the country.

THE GERMAN MENACE

[By Francis P. Garvan, *Alien Property Custodian*]

FOR nineteen months I have been engaged in a study of German industrial life and its manifestations and activities in the United States, and I come here to give you as briefly as I may a few of the incontrovertible facts which my experience has made clear.

First and foremost, be it understood that this was an industrial war, brought on by industrial Germany in her lust-mad haste to capture the markets of the world. Industrial Germany in its arrogance and pride preferred the formidable hazard of battle to the progressive and sure infiltration which within ten or twenty years might well have given her the world domination she sought from complacent and unthinking peoples.

Industrial Germany was in control of Imperial Germany. Industrial Germany sympathized and participated in the preparation for this war. Industrial Germany waged this war. Industrial Germany was the first to see defeat and forced the military peace, in order that with her industrial equipment intact she might continue that same war by intensified and concentrated economic measures.

Her ambitions are the same in peace and in war. Her methods are the same in peace and in war. Destroy your business competitor by state aid, cartel combination, dumping, full-line forcing, bribery, theft of patents or inventions, espionage, and propaganda! Destroy your military adversary by tearing up sacred treaties, by unlicensed and unbridled submarine and poisonous gas warfare, by the destruction of factories, mines and vineyards, by terrorism and vandalism!

You or I have yet to hear one word of a change of heart or purpose; one word of regret or shame; one word of dispraise for any leader in the past holocaust. On the other hand, hold to the fact that at this moment the four men best fitted to conduct a ruthless

economic war upon this country, the four men who planned, instigated and paid for all the black history of lawlessness under which we suffered for two and a half years, Dr. Albert, Dr. Dernburg, Captain Boy-Ed, and von Bernstorff, are the helmsmen of the present German Government. Dr. Heinrich Albert is now Under-Secretary of State; Herr Bernhard Dernburg is now Minister of Finance; Boy-Ed is Director of the Intelligence Section of the Foreign Office, the Espionage and Propaganda Division; and that arch-criminal, Bernstorff, is over them all, directing and leading the new Government.

Has the war ended for you?

It was Germany's chemical supremacy that gave her confidence in her avaricious dream of world empire. It was German's chemical supremacy that enabled her to wage four years of pitiless warfare. And it is Germany's chemical supremacy upon which she relies to continue this war; and for that supremacy she pays homage to her dye industry, and counts upon that dye industry to maintain it.

Since 1866 Germany has recognized the fact that upon the development of the dye industry rested her entire development of organic chemistry, that upon the development of organic chemistry rested, in an ever-increasing measure, all the development of modern business, and modern warfare.

And so she cherished the industry with wisdom and prevision while it was still in its childhood, and by her patience, by her persistence, by the willingness of her people to sacrifice in unselfish coöperation, she has gradually transformed the plans made in the year 1866 into the reality of to-day.

And now she realizes that her dye industry constitutes her keenest wedge with which to force her way back into the world trade. She calls the dye industry her chief "Protective Industry," and has laid out for it a program of state protection and aid which should startle us. She proposes to use the alleged necessities of the world for her dyes to force all her other exports. In other words, she proposes to use it as a club with which to fight her way back into commercial society.

Prior to the war the German dye industry was united into three

cartels with some independent companies outside. All are now united into one monster cartel, the I. G. Company, with Mr. Weinberg, the old head of the Cassella Color Company, as its president, and a capitalization of hundreds of millions of dollars. Germany has taken it under state aid and protection; she has decided to establish a guaranty fund whereby all industries share the losses the cartel may be compelled to face through dumping, bribery, or other expense incurred in reasserting her dye monopoly of the world. She looks forward to granting it trade export premiums, freight rebates, intensified consular service, and state guarantees against labor troubles.

As a result, our young but vigorous industry stands here to-day in direct competition, not only with the great cartel I. G., but with that great cartel sustained and supported and subsidized by the entire strength and wealth of the German kingdom.

Over three billion dollars of annual business in America, including yours, are dependent upon the dye industry. Is there any doubt that the destruction of the American industry means your enslavement to that cartel, and your destruction when it becomes the whim of that cartel?

For years that three billion dollars of annual business was dependent upon the graciousness of German ambition. The time had not come when it seemed to their self-interest to cripple or destroy it, but when the war came on, in an instant Germany felt the force of your dependence and attempted to use your necessities to influence the policies of your Government. There was a considerable period when Germany could have relieved your distress; but would not. There was a period thereafter when her branches here might have assisted you; but they would not.

Listen! April 25, 1915, Boy-Ed, of ill-smelling fame, writes to Albert: "Very Honorable Privy Counsellor. To-day's *World* prints the enclosed short article on the alleged erection of dye factories in New Jersey by Germans. In case you are not able to take any steps to prevent an undertaking of this kind, I am requesting you to indicate to whose attention I could call the matter. With greetings, etc." Signed, Boy-Ed.

Albert answers, April 28, 1915: "Very Honorable Captain:

With regard to dyes, I got into touch with local experts in order to determine what truth there is in the news. According to my knowledge of things, the matter is a fake inasmuch as our factories have bound themselves orally and by word of honor to do nothing in the present situation which might help the United States."

Thank God! That day your independence began. That day our industry was born. And supported by you with loyalty, patience and sacrifice, it has grown until to-day \$450,000,000 is enlisted in the cause and we see the end forever of the past slavery and we stand unafraid in the face of any threat.

But even greater than the importance of the dye industry in commercial life is its absolute necessity in modern warfare. I quote from Dr. Schweitzer:

"In no other field has German efficiency proven its superiority as in that of chemistry. While this was anticipated before the present war, it is no exaggeration to state that the German chemist has so far contributed as much, if not more, to the success of the campaign than the strategist, the army and the navy, and that, therefore, the present holocaust may be justly called the 'chemists' war.'"

Eighty per cent of her explosives, and all her poisoned gases, were manufactured by Germany's dye factories.

And does any one for a moment imagine that you are going to handle, or that the women of America are going to buy or wear, the by-product of the destruction of their 70,000 sons?

A Commission appointed by the Allied Governments has just reported to their respective Governments: "At first, chlorine and phosgene were the main requirements, but afterwards a variety of organic substances were employed, all of which were made by the factories of the I. G. combination, and many of these substances were new and difficult to prepare, and rapid production was only possible owing to the speed with which the peaceful organization of the dye factories could be utilized for these purposes. When the Government wished to introduce a new gas, a conference of the various firms was held at Berlin to determine how the manufacture should be subdivided in order to use the existing plant to the best advantage. For instance, the initial stages of the manu-

facture of mustard gas were carried on at Ludwigshafen, and the final stage at Leverkusen."

They go on: "In the future it is clear that every chemical factory must be regarded as a potential arsenal, and other nations cannot, therefore, submit to the domination of certain sections of chemical industry, which Germany exercised before the war. For military security it is essential that each country should have its chemical industry firmly established, otherwise we are leaving Germany in possession of a weapon which will be a permanent menace to the peace of the world.

"The key to Germany's war production of explosives was the Haber process for the production of ammonia from atmospheric nitrogen. Without such a process Germany could not have made the nitric acid required for her explosive program, nor obtained fertilizers for food production after the supply of Chile saltpetre had been stopped by our blockade, and it is probable that she could not have continued the war after 1916. In the event of another war, we might be cut off from supplies of saltpetre, while Germany would be independent of them."

Gas warfare, and its development, even if forbidden by the League of Nations, cannot safely be left in German hands, and organic substances will be employed which we do not know to-day. Any country without a well developed chemical industry is in danger.

Useless your armies and your navies, your U-boats and your aëroplanes, unless by means of a developed dye industry you keep abreast with modern chemical warfare.

But this industry has had, and now has, another great function in Germany's machine. It was, and is, the basis of her espionage and propaganda system.

True it is that we had in this country the Orenstein Arthur-Koppel Company, a German concern owning a large plant at Koppel, near Pittsburgh. The chief business of that company was the manufacture and installation of what is known as "inside transportation," that is, narrow gauge railways, dump cars, traveling cranes, and machinery of a similar sort used in large industrial plants. It was the American branch of a great German house with

connections in all the great countries of the world. For twenty years it has put in bids based upon the plans and specifications of every big industrial plant built in this country; and for that same twenty years, blueprints of these specifications and floor plans and elevations have gone on file in the Government office in Berlin.

True it is that in this country we had eighteen branches of German insurance companies, largely engaged in the reinsurance business; and that these companies collected for their own use detailed plans of all property insured by them, with especial reference to the hazard of the insured buildings from fire, explosion or other causes; and duplicates of these plans and drawings also found their resting place in the Berlin office. And we wondered at the accuracy of our factory fires and explosions!

True it is that Germany, through the Bosch Magneto Company, the Eisemann Magneto Company and the Boonton Rubber Company, had a practical monopoly of the ignition systems in America, and through this combination the files of the central office in Berlin were kept up to date with all plans for improvements in military trucks, gasoline boats and aëroplanes.

Let me read you Manager Otto Heins' report to Dr. Albert of the activities of the Bosch Magneto Company in this your country, at that time neutral:

"Honored Mr. Albert: In connection with the obstruction policy upon which we agreed at the beginning of the war in matters concerning deliveries of our products, especially the special magneto apparatus, I should like in the following to make several statements from which one will clearly see that the accomplished obstruction policy has in every way been successful. In short, we had great difficulty at the beginning of the war in withholding the much-needed special aëroplane apparatuses from the Allies, and in preventing the Allies, especially the English, from immediately attempting to manufacture them for themselves. Special apparatuses are involved in flying machines, airship and speed boats. These apparatuses are very different from the normal apparatus used on automobiles and motorcycles. We have freely supplied them with ordinary apparatuses; but, *in accordance with our agreement*, we have entered into apparent negotiations with the

representatives of the Allies, creating in their minds the impression that they would receive also the special apparatuses at the present time. These negotiations began immediately after the first declaration of war, and it was possible, on account of their technical character, to extend them many months into the war. Our policy lulled them into the certainty that they would receive the special apparatus and only now, November 30, fifteen months after war began, have they realized our duplicity."

He goes on to state that this policy has been carried out despite the fact that these contracts were in many instances subcontracts with American firms; and he gloatingly continues that as a result of his activities in this country England, in October, 1915, found herself unable to defend London against their air raids, and states that France was in a much better position to protect herself against air raids because of her confiscation of the Bosch factories in Paris at the beginning of the war. I wonder how many women and children were killed!

True it is that the Hamburg-American Line and the Nord Deutsche Lloyd kept faithful tab for Berlin on a thousand details of our business life which came under their observation; that not a ship left our harbors, not a cargo was loaded or unloaded, but that some member of its organization watched and reported every detail to be sent by code to the German Government.

But greater than all, and forming the foundation of her entire espionage and propaganda system, stood the dye industry. Her trained observers enjoyed full access to the businesses they supplied, and regularly and faithfully reported each and every detail of the three billion dollars of annual business dependent upon the dye industry in this country. As long as you were supplied by the "Big Six," your business had no secret unknown to Berlin. In Berlin you will find a card index system which recites every fact connected with each and every one of your concerns that can be of any possible value to your rivals over there.

The head of that system in this country for years before the war was Dr. Hugo Schweitzer, president of the Bayer Company. Right here you will be glad to know that the Bayer Company is now 100 per cent American, having been bought by loyal Americans. He

was given his Secret Service number by the Imperial Minister of War, 963,192,637. He came to this country, became a citizen on the instruction of the German Government, eventually was made the head of the Bayer Company, and led the espionage and propagandist movements here down to the day of his sudden death in November, 1917. His regular reports to Germany are the story of your prewar slavery and the story of the activity of each and every representative connected with the old "Big Six" to perpetuate that slavery. When Albert came here, to assume the leadership of that system, it is to Schweitzer he first turns. And then we find Schweitzer bringing to Albert's office from day to day those other smiling gentlemen who sold you the "peerless dyes" in the past. From that moment Germany's trade outposts in this country were turned into ministers of lawlessness and destruction.

A word or two of his activities. Schweitzer was the inventor of the idea of the purchase of the New York *Evening Mail*. Schweitzer was the inventor of the idea of the German Publication Society, formed to publish, for our delectation, the literature of German Kultur. Schweitzer, with Henry Weissmann, president of the German-American Alliance, we see forming the Printers and Publishers' Association, another attempt to create an English-language newspaper to present Germany's side of the war. Over thirty trained chemists, his lieutenants, are now interned.

We find Albert, about to go home, in January, 1917, turning over to Schweitzer \$1,178,882.08; and again, on February 2, \$300,000, all to be spent in espionage and propaganda. We find Schweitzer using the chemical branches of the "Big Six" in this country to form the Chemical Exchange, by which all available phenol supply in America was turned away from the manufacture of picric acid for explosives for the Allies, with a profit, out of America's pocket, to Germany of \$1,650,000.

Listen to Albert's praise:

"The breadth of high-mindedness with which you at that time immediately entered into the plan has borne fruit as follows: One and a half million pounds of carbolic acid have been kept from the Allies. Out of this one and a half million pounds of carbolic acid four and one-half million pounds of picric acid can be produced.

This tremendous quantity of explosive stuffs has been withheld from the Allies by your contract. In order to give one an idea of this enormous quantity the following figures are of interest:

"4,500,000 pounds equals 2,250 tons of explosives. A railroad freight car is loaded with 20 tons of explosives. The 2,250 tons would, therefore, fill 112 railway cars. A freight train with explosives consists chiefly of 40 freight cars, so that the 4,500,000 pounds of explosives would fill 3 railroad trains with 40 cars each.

"Now one should picture to himself what a military coup would be accomplished by an army leader if he should succeed in destroying three railroad trains of forty cars, containing four and a half million pounds of explosives.

"Of still greater and more beneficial effect is the support which you have afforded to the purchase of bromine. We have a well-founded hope that, with the exclusion of perhaps small quantities, we shall be in a position to buy up the total production of the country. Bromine, together with chloral, is used in making nitric gases, which are of such great importance in trench warfare. Without bromine these nitric gases are of slight effect; in connection with bromine, they are of terrible effect. Bromine is produced only in the United States and Germany. While, therefore, the material is on hand in satisfactory quantities for the Germans, the Allies are entirely dependent upon importation from America."

Gentlemen, did you intend by your support of the German dye industry to leave the Allies defenceless against the poison gas made by that German dye industry?

But that is not the worst. At Bogota, New Jersey, in the New Jersey Agriculture Chemical Company, Dr. Schweitzer employed Dr. Walter Scheele, who was the inventor, in that little town of New Jersey, in 1913, of mustard gas, the formula of which he transmitted through Captain von Papen to Germany as soon as the war broke out. This is the mustard gas which laid low your brothers on the plains of France. And for Scheele Dr. Schweitzer laid out the plans for the preparation of the bombs which destroyed your ships in your harbors.

Untold millions were spent by this man in propaganda and espionage in the United States. In the two years before we en-

tered the war, the Bayer Company drew \$2,000,000 from the profits of its Orient and South American houses, which money was spent here, for what purposes we can well imagine. Practically all the dye salesmen you saw were only nominally in the employ of the branches here; all had secret and personal contracts with the home office.

All that I have said of Schweitzer is typical of practically all representatives of German dye houses in this country. Wherever we have found espionage or propaganda activity, there you will find those names so familiar to you in the days of your slavery. You will find the same gang returning, decrying our dyes, selling apparently Swiss or unmarked dyes, telling you tales of German distress, serving as ever their Fatherland. Be on your guard.

Coincident with the development of Germany's dye industry came the general development of her chemical strength. It offered great incentives to young men. It developed a large body of trained scientists. It encouraged and fostered the spirit of research in all lines, and added to the effectiveness of practically every industry in the empire. Nowhere is this more striking than in the supremacy Germany was attaining in chemical medicine.

One other thought I want you to have in mind is this: For four years now the chemical science developed by the dye industry of Germany has focussed its mind largely upon substitutes for the raw material she has hitherto received from the outside world. The leader of her chemical industry in this country, Dr. Hugo Schweitzer, of whom I will have more to say later on, wrote to his Government:

"All these endeavors to substitute cotton may appear ridiculous to us who have been brought up with the idea that Cotton is King and that America has been designed by fate to supply this fiber to the civilized world. The farmers who cultivated the madder root, and the planters who raised indigo, were also inclined to jest when they were apprised of the fact that German chemists had succeeded in reproducing in the laboratories the dyes which their crops furnished; but when the manufactured materials drove the natural products from the market, and left the farmers and planters without a job, hilarity ceased. History may repeat itself and willow-

bark and nettle, or some other substitute, raised on German soil, may, in the near future, depose King Cotton. The German chemist has a duty to perform, and with his perseverance and application he does not shrink from any problem, however difficult it may appear to outsiders."

Gradually Germany was obtaining control of the pharmaceutical industry of the world, and gradually it was dawning upon her that this development too might put in her hands an even more powerful weapon than explosives or poisonous gas in her conscienceless conquest of the world. Most of the great discoveries in chemical medicine came directly from the dye laboratories. Are you content that the development of chemical medicine shall remain the exclusive possession of the German nation as we now know it?

Briefly then I have tried to give you a picture of the situation of this country in its relation to the dye industry, as our daily experience of the past eighteen months unrolled it before us. Do you wonder that A. Mitchell Palmer and all those who fought under him were shocked beyond measure, and could not rest until Congress had amended the Act and had given us the power under which we have rooted out each and every branch of that system and sold it into the hands of patriotic Americans?

But that was not enough. Germany had misused our patent system, just as she had misused and violated our Sherman Law, our antidumping laws, our antibribery acts, our business code, and our common code of honesty. She had taken out patents for all her developments, covering, in many instances, not only the processes, to prevent manufacture here, but also the product, to prevent our taking advantage of any possible development in the dye industry of other countries.

4,500 of these patents which applied to chemistry Mr. Palmer has sold for the benefit of American industries to a quasi-trustee corporation, called the Chemical Foundation. This company is capitalized for \$500,000, \$400,000 being six per cent preferred stock and \$100,000 common stock, also limited to dividends of six per cent.

The stock has been all underwritten by members of the Dye

Institute, each and all taking their share, and is now in process of distribution through the dye producers and, eventually, through the consumers. It is the intention that ultimately no one will own more than a thousand dollars' worth of stock, eight hundred preferred and two hundred common.

All license fees accruing to the Foundation will be used first to pay back the preferred stock. All surplus then above the six per cent actually invested will be expended for the development of research and the encouragement of the chemical industry of America.

Its executives serve with enthusiasm and without pay. All its stock is trusted for a period of seventeen years. Its management and its policies are controlled by a Board of Trustees, consisting of Otto Bannard, President of the New York Trust Company, Chairman; Cleveland H. Dodge; George L. Ingraham, late Presiding Justice of the Appellate Division of the New York Supreme Court; Ralph Stone, President of the Detroit Trust Company; and Benjamin Griswold, of Brown & Son, Baltimore. These gentlemen have been serving as the Advisory Sales Committee of the Alien Property Custodian for over a year. They represent the highest standard of American patriotism and disinterestedness. Long lives of manifested ability, long lives of unselfish service to their country, guarantee the character of the Chemical Foundation.

Its counsel is Joseph H. Choate, who, as a dollar-a-year man, has given eighteen months of tireless and efficient service in the exclusive study of the chemical situation. Its patent counsel is the fighting Ramsay Hoguet.

This Foundation proposes to license to any competent, equipped and patriotic American, individual, firm or corporation, such of these patents as, with the help and encouragement of the Foundation, may be utilized. This Foundation proposes to begin to fight at the customs gate against any violation of the patents now owned by it, whether they appear as denationalized or camouflaged products seeking to enter through neutral sources. It proposes to establish an Intelligence Department which will coördinate, preserve and utilize all the chemical information gathered by every department of the Government during the war, and make

that information available to the American public that they may know the exact truth as to the past, and may be kept apprised of all German activity, either through its own agents or its American connections, during every stage in the coming struggle.

It proposes to match with watchfulness and pitiless publicity all future attempts at espionage or propaganda in our land. It proposes to expose all unfounded criticism directed against our productions, and, on the other hand, to do what it can to prevent producers or dealers here casting reflection upon our industry by the marketing of inferior or dishonestly described products.

It proposes to encourage and foster chemical research by co-operation with the forces already at work; by offering some hope of protection and reward to the loyal research men in the United States Government Service, who now by Department rule have to dedicate their inventions to the public, a course which results only in Germany transferring these inventions to her own laboratory system for development or exploitation.

It proposes to bring about a closer union of the university and the factory. It has taken over all German copyrights, and will thus free much scientific literature from the shackles of the German language. It proposes to place all possible information on our situation before Congress, and ask the passage of a law establishing a license system governing all chemical importations for a period of ten years. It is intended that this license system shall act at one and the same time as a guarantee to you and all other dependent industries for proper importations to enable you to meet the competition of other lands, and to protect and guard our growing chemical independence. In this we ask no more than England, France, Italy and Japan have already decided to grant on behalf of their own independence. This request we base upon the following grounds:

1. Fairness to the \$450,000,000 invested in the chemical business by loyal Americans in the hour of our need.
2. Independence and freedom of the textile, leather, paper, paint and varnish, pharmaceutical three-billion dollar essential American business.
3. The necessity of our national defence.

4. The destruction and prevention of the German system of propaganda and espionage in our land.
5. The advancement of pure science and research.
6. The advancement of medical science.

The granting of this license system is not a question of conflicting economic schools. It is the question of our national independence, safety and education.

Once we are assured time in which to work out our salvation, we hope to turn to our dearest objective. Already we have started to make a survey of our laboratory equipment, Governmental, university and factory. Already company after company have passed resolutions through their Boards of Directors, placing at the disposal of our Trustees, under such terms and conditions as those Trustees may dictate, their entire research capacity. Government laboratories and university laboratories have also been assured us. Gentlemen, we know that offer will be unanimous.

We will soon be able to go to the medical profession of America and offer to them the entire capacity of the country for experiment and research for the betterment of mankind. One medical chemist in one dye factory in Germany discovered the cure for syphilis, the deadliest enemy of mankind. The same medical chemist, in the same dye factory, discovered the cure for the sleeping sickness of Africa which made a continent habitable. What can we not hope for when the American medical profession is given unbounded scope and opportunity?

We are assured that somewhere within that realm lies the hope of the cure for consumption, cancer, and many of the seizures which rob us of our little ones. Can it be that herein lies the opportunity of converting the forces which up to now have been directed only toward desolation and destruction into the channels of alleviation and helpfulness to humanity? Can it be that through this medium idealist America may snatch the torch of misapplied Science from the barbarian, and place it in the hands of an enlightened civilization?

Gentlemen, Drs. Albert and Bernstorff reported to their Government that America could never establish the dye and pharmaceutical industry in this country, as we lacked the moral power for

the creation of such an industry; that here each party pursued its own selfish interests, but nobody kept the whole in mind; that this problem could only be solved through regard for all points of view, and that the conflicting selfishnesses of this country rendered that solution impossible.

The Chemical Foundation answers this statement with a challenge, and if it can only become the coördinating forum for American patriotism, American sacrifice, and American ability, it awaits the issue with serenity.

Gentlemen, we are the boys who stayed at home. True, the reasons seemed sound and sufficient yesterday. But to-day they seem only excuses, ever decreasingly satisfying. It is not enough that with envious tears we cheer their homecoming.

Would they know our admiration, they must sit by our fireside and listen to us teach our children the character-building tales of their sacrifice. Would they know our love, they must lean over the cribs of those little ones and listen to the prayers of gratitude those little lips are lisping in their behalf. Would they know the depth of the realization of our obligations, and the strength of our resolve that they shall not have suffered and died in vain, we call upon their spirits to watch us in this fight. Peace, peace, and there is no peace!

PROSPECTUS OF
THE CHEMICAL FOUNDATION, INC.

The Chemical Foundation is a corporation organized at the suggestion of the Alien Property Custodian, by members of the American Dyes Institute, the American Manufacturing Chemists Association, and other gentlemen engaged in various branches of the chemical industries, to buy from the Alien Property Custodian and hold for the chemical industries and for the country at large, the German-owned United States chemical and allied patents taken over by the Alien Property Custodian under the amendment of November 4, 1918, of the "Trading with the Enemy Act."

The Company is a Delaware corporation, capitalized at \$500,000.00, of which \$400,000.00 is preferred stock, and \$100,000.00 common stock. Each of these stocks is limited so that it can receive no more than 6% dividends. The preferred has a preference as to both principal and income, but has not voting power except upon the question of amendment of the charter. The common stock has full voting power. None of the stock of either class can be transferred except by consent of the Board of Directors. The charter provides that the preferred stock shall be subject to redemption as a whole at par on January 1, 1921, or on any first of January thereafter, as the directors may determine, and that it shall be so redeemed whenever the accumulated surplus amounts to 100% of the total issued and outstanding stock of all classes. The common stock is to be issued under an obligation to deposit it in a voting trust which is to continue until January 1, 1936.

The trustees, in whom, under the voting trust agreement, the control of the Foundation will be lodged, are the following gentlemen, who have been serving for many months as the Advisory Committee which has passed upon all sales made by the Alien Property Custodian:

Otto T. Bannard, Esquire. (Chairman, The New York Trust Company, N. Y.)

Hon. George L. Ingraham. (Late presiding Justice, Appellate Division, First Department, New York Supreme Court.)

Cleveland H. Dodge, Esquire.

B. Howell Griswold, Jr., Esquire. (Of Alexander Brown & Sons, Baltimore.)

Ralph Stone, Esquire. (President, Detroit Trust Company, Detroit, Michigan.)

The CHEMICAL FOUNDATION, INC.

The Trust Agreement gives those trustees the power to fill vacancies in their board, so that during the continuance of the trust they will be a self-perpetuating body. They elect the directors of the Company, whose resignations are always in their hands.

The officers and directors of the Foundation are as follows:

President, Mr. Francis P. Garvan. (The Alien Property Custodian.)

Vice-President, Col. Douglas I. McKay. (Late Colonel, General Staff, Vice-President of J. G. White & Co., and Deputy and Police Commissioner of the City of New York under Mayors Gaynor, Kline and Mitchel.)

Treasurer and Secretary, Mr. George J. Corbett. (Assistant Secretary, Central Union Trust Company.)

These gentlemen are for the present serving without salary. For its patent counsel the Foundation has retained Mr. Ramsay Hogue, of the New York firm of Emery, Varney, Blair & Hogue, to whom, as patent counsel for the Alien Property Custodian, has been due the successful accomplishment of the enormous task of finding and transferring the German patents. The General Counsel of the Company is to be Mr. Joseph H. Choate, Jr., who for the past year has been entirely occupied in the chemical part of the work of the Alien Property Custodian's Bureau of Investigation. Substantially the whole of the special knowledge, in this field, acquired by the Alien Property Custodian and his staff, is thus at the disposal of the Foundation. It is believed that all of the trustees, officers and counsel of the Foundation are completely dissociated from the dye-producing and dye-consuming industries.

The members of the American Dyes Institute and the Manufacturing Chemists' Association have placed themselves on record as willing to take the entire capital stock of the Foundation, and have provided in advance so much of the capital as was required for the purchase of the patents. In order to render it certain, however, that the control of the Company can never be vested, even at the termination of the voting trust, in any small group of interested parties, the Company is now endeavoring, under the supervision of the Alien Property Custodian, to distribute its stock as widely as possible among the chemical and allied industries. In any event no subscriber will be allowed to hold more than two, and possibly not more than one, share of the common stock, which has the voting power. It is hoped that when this distribution is complete, no single subscriber will retain more than \$1,000.00 of the preferred and common stock. If this can be real-

ized, the Foundation will remain, even after the dissolution of the voting trust, the impartial representative of all the industries affected. After the success of the Company shall have been demonstrated in actual operation, it is hoped that the consuming industries may also be brought in.

To the Foundation as thus organized, the Alien Property Custodian has sold for the sum of \$250,000.00 substantially all of the German dye and chemical patents, seized by him, except those which were included in the sale of the Bayer Co., Inc., which took place before the organization of the Foundation. The patents cover a very wide field, the classification including metallurgy, fertilizers, fixation of nitrogen, hydrogenation of oils, etc., and number approximately forty-five hundred. The transfer of these patents has been completed. They will be used to encourage manufacture in this country and discourage importation from Germany. The Foundation will issue non-exclusive licenses under them, on reasonable and equal terms, to manufacturers whose Americanism and competence are unquestioned. It will also prosecute with all possible vigor, suits against all persons who attempt to import any infringing product. Since many of the patents are product patents, the Foundation should be able to exclude infringing goods from any source whatever, and should thus be able to give partial protection to a part, at least, of the new American dye industry.

In addition to the patents, the enemy trademarks taken over by the Alien Property Custodian have likewise been sold to the Foundation. A plan is being formulated under which it is hoped that the Foundation will be able to license American manufacturers to use these trademarks. The intention is to issue such licenses only when the goods to which the mark is to be attached, are found, on examination by the Foundation itself, to be equal or superior to those of the original owner. Such trademarks would then represent to the public a guarantee of quality furnished by an impartial body, and would thus give American manufacturers an important advantage over foreign competitors.

The Foundation has also purchased from the Custodian the German copyrights covering some of the indispensable literature of science. By this means it should be able to render vastly more accessible than at present many of the necessary scientific publications. The Foundation also has power, under its charter, to purchase new patents, and it is hoped that this may become an important field of its activities. It seems clear that an immense stimulus will be offered to chemical invention by the provision of such a disinterested and impartial possible purchaser; at the same time, such transactions would be valuable to the public at

large, as all inventions thus purchased would be available for immediate use by any suitable manufacturer, and could not be suppressed.

The chief usefulness of the Foundation, however, is expected to be as a centre of research. Its charter provides that after the redemption of the preferred stock, the free net earnings of the Corporation shall be "used and devoted to the development and advancement of chemistry and allied sciences in the useful arts and manufactures in the United States." If the patents turn out to be as valuable as is hoped, this provision should render a considerable income available for research purposes, and for this work the Foundation is in a position of unique advantage. It forms a link of a type heretofore unknown between industrial and academic research. It is in a position to bring about in this country coöperation between the laboratories of the university and those of the dye works as close as that which has accomplished so much in Germany. Informal offers have already been received from important laboratories, placing their facilities at the disposal of the Foundation, and resolutions looking to the same end are already pending before the governing bodies of various large companies and institutions. As a preliminary step in this direction, the Foundation intends to take a laboratory census of the country, a thing which it is believed has never been attempted, and hopes thus to create a Bureau of Information where any scientist, at the start of an important research, may be able to ascertain where the facilities which he needs are obtainable, and what institution has already made progress along similar lines. This Bureau should also be able to aid in bringing together those who wish to undertake and those who are interested in such researches. These activities will furnish valuable aid in what is perhaps the most important work now before the country, the advancement of chemical science in the industries, and particularly in medicine.

The offices of the Foundation are in the Market and Fulton Bank Building, 81 Fulton Street, New York City.



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